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POTOP Larisa

IMPROVING THE CURRICULAR AREA OF PHYSICAL EDUCATION AND SPORTS IN PRIMARY SCHOOL BY DIVERSIFYING THE CONTENT OF GYMNASTICS

Specialty: 533.04 – Physical education, sports, kinesiotherapy and recreation

Abstract of the doctoral thesis in education sciences

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Composition of the Commission for public defense of the doctoral thesis:

1. **MANOLACHI VEACESLAV**, habilitated doctor in pedagogical sciences, university professor, State University of Physical Education and Sports – **chairman of the commission**
2. **ONOI Mihail,** doctor of pedagogical sciences, associate professor, State University of Physical Education and Sports **– scientific secretary**
3. **JURAT Valeriu,** doctor of pedagogical sciences, university professor, State University of Physical Education and Sports, Chișinău – **scientific advisor**.
4. **CARP ION,** doctor of pedagogical sciences, university professor, State University of Physical Education and Sports – **official reviewer**
5. **MOGA CAROLINA**, doctor of pedagogical sciences, associate professor, USEFS, Chișinău – **official reviewer**
6. **DOBRESCU Tatiana,** doctor in physical education and sports, university professor, ”Vasile Alecsandri” University, Bacău, Romania **–official reviewer**
7. **GROSU Emilia Florina -** doctor in physical education and sports, university professor, ”Babeș – Bolyai” University, Cluj-Napoca, Romania **–official reviewer**

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Scientific secretary of the Commission for public defense
Onoi Mihail, doctor of pedagogical sciences,
Associate professor

Scientific advisor
Jurat Valeriu, doctor of pedagogical sciences,
Professor

Author: Potop Larisa

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CONCEPTUAL LANDMARKS OF THE RESEARCH

Topicality and importance of the subject matter approached. Education, as a field of social activity, is influenced by factors, events and processes that can be used by both the internal and external environment. In the context of the contemporary life marked by socio-economic transformations in a permanent dynamics with essential changes, the education system is required to meet new requirements consistent with the European educational standards, materialized by a curricular modernization of the preschool, primary, middle and high school education. These influences determined the need to update the national school curriculum [3, 11, 14].

From the viewpoint of studying and analyzing the physical education system in Romania and the Republic of Moldova, it can be stated that, during this period characterized by special confrontations and challenges, the education of preschool children is more than ever a national priority, aiming to ensure sustainable development through a complex activity, constituted in a real educational phenomenon of creation of human personality [4, 17, 23, 30, 31].

The new realities and perspectives have determined the necessity to formulate the goals of education from the angle of the real needs of developing the personality of the student, aiming at the creation of a system of skills. In this regard, the Reccomendations of the European Parliament and of the Council of the European Union regarding the key skills for lifelong learning have been developed and jointly agreed by the national Governments and Ministries. It is currently mandatory for the education to provide students with knowledge, skills and attitudes in eight areas of key skills [6, 8, 10, 15].

Many studies, over time, have demonstrated and highlighted the role and influence of early education, along with other factors – biological, natural and socio-cultural ones – on the evolution and development of the human personality [24].

Education is a national priority and the main factor of the sustainable development of a knowledge-based society. The most important stage is the education in the 1st-4th grades, where children acquire the basic knowledge and necessary abilities for their future intellectual training [18].

According to other authors [4, 16, 19, 20, 22, 25, 28], physical education is considered an absolutely necessary component of education, which facilitates the harmonious growth and physical development, the health strengthening, the acquisition of basic motor skills and physical qualities (strength, speed, coordination, endurance, mobility, flexibility etc.), qualities needed for the daily activities.

Gymnastics is an important part of the physical education that includes contents and means with a significant contribution to child's development by cultivating and maintaining the harmony

between body and mind, psychomotricity and intellectual capacity, emotiveness [13, 16, 19, 20, 22, 28]. In accordance with the specific contribution of the „Physical Education and Sports" curricular area to the achievement of the primary schooling in Romania [34, 35] and the curriculum for primary education in the Republic of Moldova [32, 33], the means of gymnastics are found in almost all areas of the curriculum, both in the fundamental acquisitions cycle and in the development cycle.

Following the analysis of the specialized literature, it was observed that there was not enough didactic material regarding the methods of teaching-learning and evaluation of the gymnastics contents at the level of primary education [21]. Diversifying the content of the means within the physical education lesson for primary school students can contribute to the improvement of the curricular area. At the present moment, gymnastics is assigned a significant role in the creation of some psychomotor skills, motor skills and abilities in the children of primary school, considered to be an efficient ,, educational- didactic tool" at this age.

Description of the situation in the research field and identification of the research issues

The analysis of the specialized literature shows that „the curricular development was identified through a process of systemic and holistic evaluation of the previous curriculum, according to an approved methodology [1, 11]. This approach was based on the curricular paradigm constituted in the Reference Framework of the National Curriculum, 2017, in conformity with OMECC no. 432 of May 29, 2017. At the same time, the trends of the curricular development at international level were also monitored [3, 15].

The didactic design for the „Physical Education" discipline presents the way in which the teacher elaborates the achievement of the reference objectives for each class, corresponding to the primary and middle school. Within the Curriculum for the primary school, the basic concept of curricular design in the school subject is the personalized didactic design. The documents of staggered didactic design are long-term and short-term ones. The last preliminary stage of the didactic design is the National School Evaluation System, where tests and evaluation tools will be selected as possibilities of options for students and the evaluation scales will be established [2, 5, 23].

Regarding the combination of the learning units within the lesson of physical education, the topics from two different learning units will be addressed most often. Depending on the analysis of the curriculum and the particularities of the class of students, the teacher will establish primary and secondary learning units. As for the location of the evaluation tools / tests, a predictive evaluation will be included at the beginning of each learning unit and a summative evaluation at the end of it [8].

The particularization of the lessons of one semester for the achievement of the learning units is provided in the „annual staggering of the learning units". Where appropriate, the calendar plan may also include alternative content categories for conducting some lessons, in which teachers will focus the educational process on the student and the class. The landmarks of the methodological guides for the implementation of the school curriculum, in the sense of the new curriculum, and the calendar planning are associated in a personalized way, with optimal time allocation by the teacher [14, 33].

Concerning the content of the „Physical Education and Sports" curricular area in primary school, we believe that the diversification of the contents of gymnastics in the physical education lessons will contribute to the improvement of the general motor skills; in terms of initiation level in gymnastics, the students will get – first of all - a better aesthetic sense of movement and, last but not least, a correct posture of the body.

The purpose of the research is to improve the „Physical Education and Sports" curricular area in primary school by diversifying the content of gymnastics means of the main, secondary and permanently staggered learning units.

Objectives of the research: studying the methodological concepts on the improvement of the curricular area in physical education and sports by bringing variety to the gymnastics content in the primary school students; analysis of the opinions of specialists regarding the use of gymnastics means in the classes of physical education in primary school; assessing of the level of somatic development, motor training and mastering of the gymnastics content by the primary school students; substantiation and turning into good account of the efficiency of the gymnastics content diversification in order to improve the „Physical Education and Sports" curricular area in the primary school students.

The research hypothesis assumes that the diversification of the gymnastics means content of the main, secondary and permanently staggered learning units will contribute to the improvement of the „Physical Education and Sports" curricular area in the primary school.

Methods of research. The following methods were applied during the research: analysis, synthesis and generalization of specialized literature data, examination of specialized documents within the existing programs of study, sociological survey (questionnaire, discussions), testing method, experts method, pedagogical observation, pedagogical experiment, statistical-mathematical processing of data and their graphical presentation.

Novelty and scientific originality: consists of the fact that the paper aims to contribute to the improvement of the "Physical Education and Sports" curricular area by giving variety to the gymnastics means both throughout the school year and per semester.

The obtained results that contribute to the solution of an important scientific problem consist in substantiating scientifically and methodologically the improvement of the "Physical Education and Sports" curricular area in primary school, by diversifying the contents of the gymnastics means introduced in the experimental curriculum elaborated.

The theoretical significance is given by the following elements: theoretical-methodical conceptions regarding the theory and methods of school physical education; importance of diversifying the means of gymnastics within the "Physical Education and Sports" curricular area in primary school; optimization of the instructive-educational process; possibilities to improve the level of physical training and assimilation of the gymnastics content by the primary school students.

Applicative value: consists of the possibility to use the results of the research and of the experimental curriculum for improving the "Physical Education and Sports" curricular area in the primary school. The curriculum can be used in the education process of the future teachers of physical education and the continuous training of the teaching staff in physical culture field for primary school.

Implementation of the scientific results. The content of the experimental research curriculum was applied for improving the „Physical Education and Sports" curricular area in primary school and was implemented in the studies process in the " Șerban-Vodă" Middle School of Bucharest, "I.G. Duca" Middle School of Bucharest, "Coresi" Middle School of Târgoviște, "Grigore Moisil" Middle School of Timișoara, "Eremia Grigorescu" Technological High School of Mărășești and "Duiliu Zamfirescu" Middle School of Focșani, fact which is confirmed by the implementation certificates.

Volume and structure of the thesis. The paper consists of: introduction, 3 chapters, general conclusions and recommendations, references 306 titles, 13 annexes, 127 pages of basic text, 84 figures, 22 tables. The obtained results are published in 10 scientific papers.

CONTENTS OF THE PAPER

The **Introduction** substantiates the topicality of the approached subject matter and the importance of the studied issue. The purpose and the objectives of the research are presented, highlighting the scientific novelty of the results obtained; synthesis of the research methodology and justification of the chosen research methods; the way in which the research results were approved.

Chapter 1, Conceptual guidelines for modernizing the „Physical Education and Sports" curricular area in primary school, includes 5 subchapters which present and analyze the conceptual framework of the curriculum and especially the „Physical Education and Sports"

curricular area for primary school. Also, the methodological aspects of the didactic design in the discipline of physical education for primary school are presented. In order to better know the instructive process with the students from the primary classes, the particularities of age were studied according to the didactic contents of physical education. The content elements of the school programs (school curriculum) in "Physical Education" discipline were highlighted too, then a comparative analysis was performed at the level of the primary school in Romania and the Republic of Moldova, using the current normative documents [32-34]. It is not possible to talk about a dynamic of the knowledge process without a periodic evaluation of the possibilities and accumulations, since the evaluation highlights the balance between the activity carried out and the progress (accumulation) achieved [21]. In this regard, the evaluation system in "Physical Education" discipline for the primary school in Romania and the Republic of Moldova was studied.

In the conditions of modernization of education, it is required that the main function of the old textbook of another time - that of information (transmission of knowledge) - be diminished in favor of the functions of training the abilities and competencies of fixation and consolidation by carrying out didactic tasks that mobilize a set of resources: knowledge, experiences, abilities, skills, ensuring their integration [11].

In the curriculum for primary school, the ***system of contents*** (in a broad sense) is structured on curricular areas and study disciplines, which are meant to ensure the formation of the designed skills. The *contents by disciplines* (in a narrow sense) aim at: *knowledge* (laws, theories, laws governing, facts, phenomena, processes, data etc.) and *human values*.

The curricular approach of the educational process involves "the interdependent design between the component elements of the didactic activity: objectives / finalities (skills) – contents – methodology – evaluation" [21].

Didactic design is "an approach to anticipate the objectives, contents, methods and means of practice, evaluation tools and relationships that are established between all these elements, in the context of specific ways of organizing the didactic activity," with the aim of streamlining the instructive-educational process [23, p. 98]. Planning an activity involves „ the scientific provision of the content, development and completion of an action" [4].

Based on the documentation and the methodological-organizational criteria, the teachers must elaborate the following *planning documents* [8, p. 68]*:*

- annual staggering of the learning units;
- the half-yearly calendar plan;
- design of each learning unit.

The psycho-pedagogical analysis of the motor learning process starts from placing the student in the center of attention; all pedagogical actions and measures, as well as the staggering of the things taught, must take into account the laws of biopsychic activity and the age particularities of the student.

The curriculum of the discipline "Physical Education" is developed according to a new model of curricular design, focused on skills. The construction of the curriculum is made in such a way as to contribute to the development of the training profile of the primary school student. From the perspective of the study discipline, the orientation of the didactic approach, starting from the skills, allows the accentuation of the purpose of learning, as well as of the action dimension in the creation of the student's personality [34, 35].

The indicative distribution of classes by content units, the content of the learning units within the implementation of the acquisitions obtained at the discipline in various individual and collective activities of the school curriculum in the Republic of Moldova, is of interest for increasing the motor potential of primary school students.

The school curriculum capitalizes on learning activities that allow the transition from focusing on content to focusing on learning experiences. In order to develop skills, we recommend that the didactic strategies used in teaching the discipline "Physical Education" focus on: progressive construction of knowledge, flexibility of approaches and differentiated path.

Taking into account the particularities of age of the children in the preparatory class, the game becomes a method, means and form of organization, performed in the form of a competition, adapted to the motor and mental abilities of the students.

„Evaluation, as an operation of the instructive-educational activity, is defined by a series of formulations, more and more sophisticated and more scientific, which try to highlight the need to use it” [14, 21].

Evaluation in school physical education is a means of effectively relating the training of students in the direction of achieving the planned objectives. It can be considered as the main way to control the impact of the means of physical education and sports on the student, but also as a mechanism of self-control on behavioral assimilations from a physical, mental, motor, moral, social, aesthetic etc. point of view [23, 27, 29].

Tests and physical fitness tests (tools) of evaluation correspond to the content categories provided by the school curricula. Each evaluation tool is described as a structure and method of implementation, in the "School curricula for the first – fourth grades, and in the" Methodological guide for the implementation of the curriculum of physical education and sports-primary school ",

thus ensuring a uniform mode of operation. ”The half-yearly evaluation will include at least three qualifications from the physical fitness tests [14, 33].

Chapter 2, Determining the application of gymnastics content within the „Physical Education **and Sports” curricular area at the primary cycle level**, presents the research methods, the description of the physical fitness tests and their evaluation depending on the requirements of the school curriculum. The pedagogical experiment was carried out in two stages: the ascertaining experiment, with a number of 346 subjects (177 girls and 169 boys), from the preparatory classes and first-fourth grades, and the formative experiment - with a number of 16 girls and 11 boys in the experimental groups and control groups.

Also, one presents the performance descriptors for assessing the level of mastery of the content of gymnastics in primary school students. It was performed the analysis of the opinions of the specialists participating in the sociological study regarding the improvement of the technologies for teaching the content of gymnastics in the physical education lessons with the primary school students. Based on the results of the ascertaining experiment, the evaluation of physical development and motor capacity was performed. At the same time, the level of physical development was assessed by memorizing the execution of a complex of general physical development exercises (EDFG) and the level of initiation in gymnastics for students in the fourth grade.

The modernization of the curriculum is based on a series of arguments that seek to keep the training process in the sphere of general educational objectives, depending on several general objectives, reference objectives and operational objectives. It also aims to fragment the teaching-learning activities on microstructural units and the tendency to carry out the training process without having a well-defined purpose, namely based on content and interests available to students [3, 11].

The comparative analysis of the school curricula for primary education in Romania and the Republic of Moldova was the basis for the elaboration of the experimental curriculum. In this sense, the contents and fields were selected in order to diversify the means of gymnastics within the didactic design of the “Physical Education and Sports” curricular area in primary school.

On the basis of the study made, we can mention that all the contents proposed in the experimental program ensured, during a school year, the diversification of gymnastics means in all links of the physical education lesson.

To this end, there were elaborated the staggering of the learning units, the calendar planning, the design of the learning unit and the didactic project, in which the diversification of the gymnastics content in accordance with the other contents of the school curriculum was aimed.

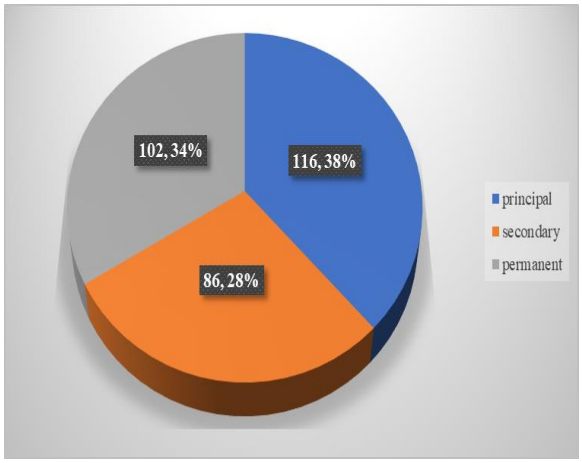

Fig.2.1.Share of the components of the experimental curriculum in the discipline of Physical Education and Sports

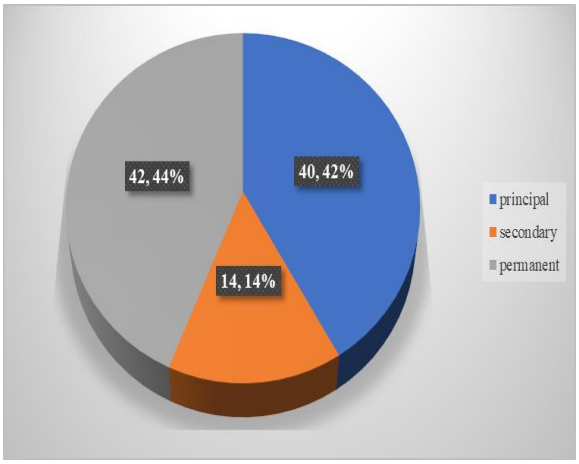

Fig.2.2. Share of the components of the experimental curriculum in the discipline of Physical Education and Sports in the first semester

During the Physical Education lessons, topics derived from two different learning units were most frequently addressed. The results of the share of the components of the experimental program, according to the annual staggering of the principal, secondary and permanent learning units, highlight 116 principal weeks, 96 secondary weeks, 102 permanent weeks and 304 total weeks (Figure 2.1). It was also specified the share of the learning units per semesters, respectively the first semester (14 weeks), 96 weeks with „principal" statutus , 14 secondary weeks, 42 permanent weeks and 96 total weeks (Figure 2.2). Selecting the learning units with gymnastics content from the experimental curriculum, it was found that **73.7%** of the learning units are from the gymnastics means and **26.4%** learning units belong to the content of other disciplines. The first semester corresponds to a percentage of **25%** of learning units in gymnastics and **24.3%** of other contents

Chapter 3, The scientific substantiation of the improvement of the curricular area „Physical Education and Sports" at the level of the primary cycle: it refers to the application of the diversified content of gymnastics within the curricular area "Physical Education and Sports" at the level of the primary grades.

In accordance with the specifics of the didactic activity, determined by the purposes of the primary school cycle, the physical education lessons can be of several types. In order to lay the foundations for training the students on the line of teaching, the lesson was used with a unitary theme and content. This refers to the ability to organize, the optimization of the physical development, the creation and enhancement of the basic and utilitarian-applicative motor skills, development of motor skills, initiation in the practice of sports disciplines provided in curricula, creation of the system of specialized knowledge.

Lessons in this category deals with topics from two different learning units, both of which may be primary, or one may be principal and the other secondary, while others may be permanent.

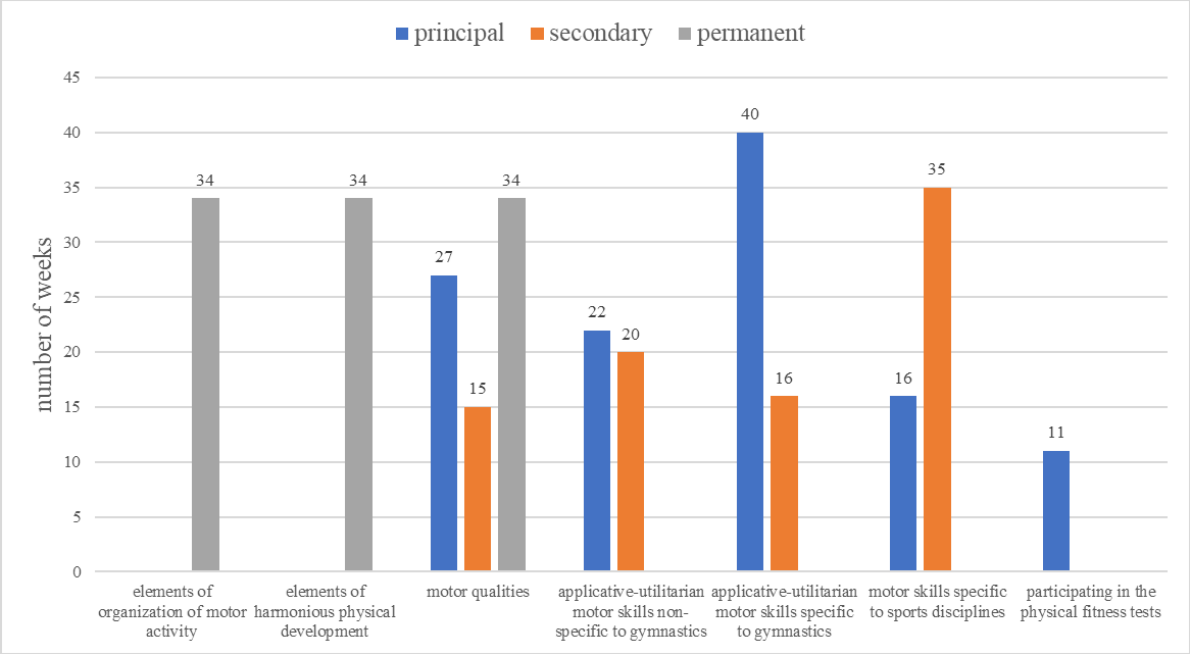

Fig. 3.1. Content of the experimental curriculum within the ”Physical Education and Sports” curricular area at fourth grade level

From the analysis of the didactic design of the staggering of the learning units within the experimental group, 6 learning units and a sequence of participating in the physical fitness tests are identified. In this sense, we further present the way of applying the experimental curriculum of the learning units distributed with the status of principal, secondary and permanent ones, trying as much as possible to avoid the overlapping of those from the same category of content.

The distribution of the learning units by lessons took into consideration the following methodological aspects:

- the staggering of the learning units will be carried out during a school year, respectively 14 weeks – the first semester and 22 weeks – the second semester;
- the learning units have a high level of complexity, approached from 3 – 14 lessons, distributed in one or two thematic cycles along a school year;
- the possibilities to achieve the learning units (for example, frontal practice, in groups or by individual sequence), ensured by the material resources, entailed the differentiated allocation of the number and content of the lessons;
- the training level of the students, reached thanks to the previous acquisitions, determined the decrease of the number of lessons allocated to learning within the elaborated thematic cycless;
- the learning units that corresponded to the objective of summative evaluation were provided with a greater number of lessons.

Regarding the achievement and the distribution of the learning units within their staggering both by semesters and throughout the school year, shown in annex 11 of the paper, we notice the following methodological modalities:

-the learning unit "elements of organization of motor activity": it was used in all the links of the lesson, especially in the organization of the group of students and was planned with permanent status throughout the school year, using the in-place and running actions, also the compositions and changes of formations, corresponding to the content of the curriculum; depending on the concrete reaction of the team, moments / sequences were used to capture the attention, energize the team and discipline it;

- the learning unit ”elements of harmonious physical development” was permanently planned forthe whole school year, using mainly the execution of the correct posture in the basic positions, their derivatives and in the motor actions; complexes of free EDFG , with portable objects (stick, medicine balls), with partner, special apparatus (gym bench);
- the learning unit ” motor qualities”: 25% with principal, secondary and permanent status were planned for the entire school year and 17% in the first semester I; the motor quality „mobility” was planned permanently, used when needed and specially organized;
- the learning unit ”motor skills: of locomotion, handling, stability, utilitarian-applicative, specific to sports skills”: 32.2% were planned with principal and secondary status throughout the school year and 11.8% in the first semester, out of which 3.9% was allocated to the variants of relay races and applicative route;
- the learning unit ”motor skills specific to sports disciplines”: 16.8% were planned with permanent and secondary status and 11.8% in the first semester, of which 5.6% specific to athletics; 7.9% *specific to gymnastics*, concerning the initiation in acrobatic gymnastics, jumps passing over the apparatus; it was proposed to supplement the school curriculum with contentsfrom the the means of the sports rythmic and aerobic gymnastics; 3.3% was allocated to sports games (initiation in basketball, football /rugby tag);
- the sequence ”participating in the physical fitness tests”: 3.6% was achieved with principal statutus staggered along the school year, using the predictive (initial) evaluation, monitoring the level of the previously accumulated acquisitions; formative (continuous) evaluation, used during the development of each learning unit; summative (final) evaluation, aiming at the level of achievement of the learning units and assessment of the training level reached by the students, compared to the requirements of the ”National Evaluation System for Schools” in accordance with the reference objectives listed in the school curriculum for the fourth grade. Regarding the diversification of the gymnastics content within the curricular area of „Physical Education” discipline for the fourth

grade, it was noticed the staggering of the units with principal, secondary and permanent status throughout the school year.

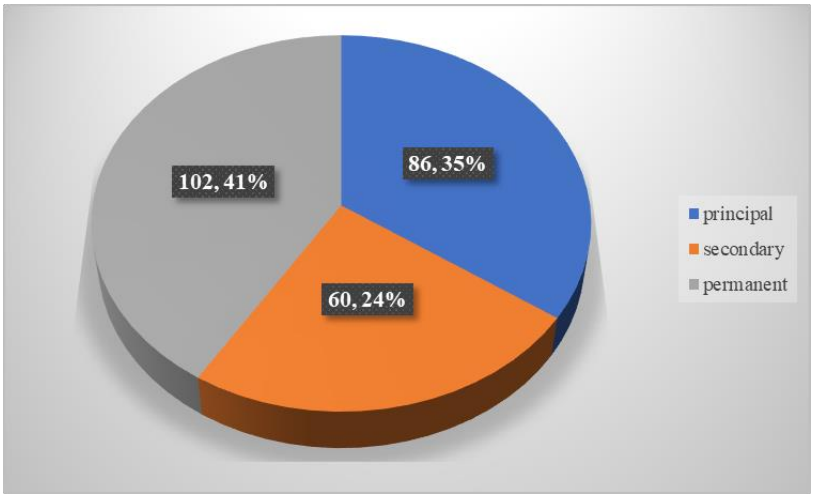

Fig. 3.2. Share of the learning units from gymnastics contents applied within the ”Physical Education and Sports” curricular area for fourth grade students

From the analysis of the learning units implemented within the experimental curriculum, there were selected the ones with specific from gymnastics means, with 35% principal status, 24% secondary and 41% permanent status.

The diversified implementation of the gymnastics contents in the curricular area ”Physical Education and Sports” for 4th grade students is presented in detail in Figure 3.3.

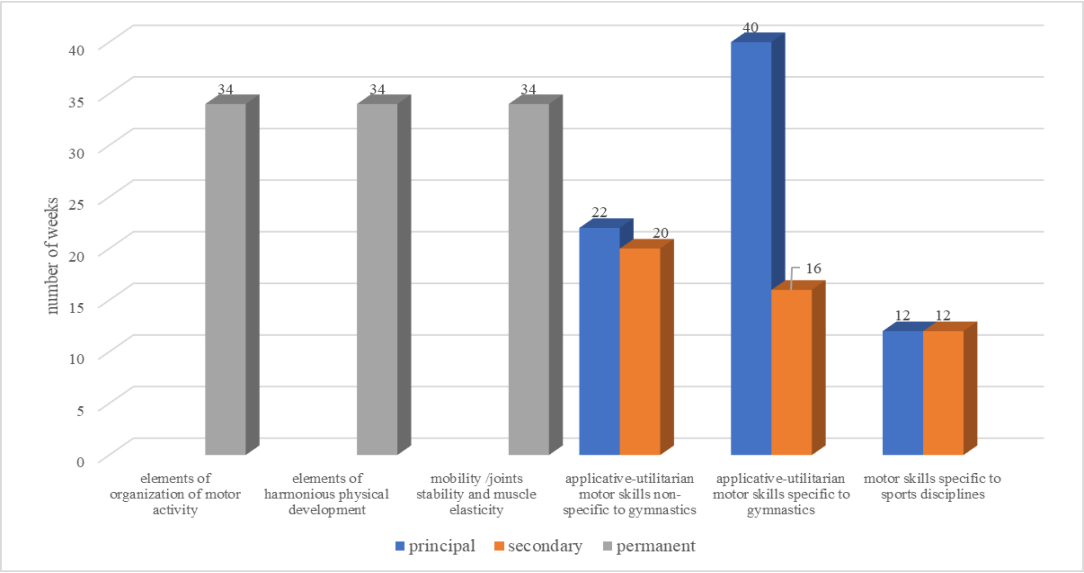

Fig. 3.3. Diversification of gymnastics content within the ”Physical Education” curricular area at fourth grade level

The share of the specific contents of gymnastics is shown as follows: elements of organization of motor activities (11.2%), elements of harmonious physical development (11.2%) and mobility /joints stability and muscle elasticity (11.2%) (spine, coxo-femoral joint, shoulder joints etc), applicative-utilitarian motor skills non-specific to gymnastics; 7.2% were used with the

status of principal ones and 6.6% secondary while those specific to gymnastics were used as 13.2% principal and 5.3% secondary. As for the planning of the learning units specific to gymnastics, there were used 7.9% principal and secondary ones.

In conclusion, we can say that the analysis of the content of the experimental curriculum in the discipline "Physical Education and Sports" in fourth grade students highlights the share of distribution and achievement of learning units with the status of primary, secondary and permanent ones, both throughout the school year , as well as by semesters. Also, the selection of learning units specific to gymnastics shows that 73.7% of the content of the curricular area "Physical Education and Sports" belongs to gymnastics and 26.4% - to other means.

The dynamics of the evaluation of the physical development level in the fourth grade students (girls, boys) included in the experimental and control groups throughout a school year is shown in tables 3.1 and 3.2.

Table 3.1. Dynamics of the evaluation of physical development level in fourth grade students (girls) within the experimental and control groups during a school year (n=16)

No.	***Parameters***	***Groups and statistical indicators***	***Statistical indicators***			
			Initial testing X± m	***Final testing X± m***	***t***	***P***
1	Height (cm)	E	141.87±1.15	143.81±1.14	31.00	<0.001
		C	136.12±1.77	138.12±1.71	15.49	<0.001
		t	2.73	2.76	–	–
		P	<0.05	<0.05	–	–
2	Weight (kg)	E	35.91±1.41	36.9±1.37	14.62	<0.001
		C	29.90±1.64	31.08±1.61	22.79	<0.001
		t	2.78	2.75	–	–
		P	<0.01	<0.01	–	–
3	BMI (kg/m^2)	E	17.77±0.54	17.78±0.51	0.29	>0.05
		C	16.08±0.78	16.13±0.75	0.82	>0.05
		t	1.77	1.81	–	–
		P	>0.05	>0.05	–	–

n= 16	P -	0.05	0.01	0.001
df= 30		2.042	2.457	3.646
df= 15		2.131	2.602	4.073

The results of the evaluation of the height (size)(cm*)* of the students in the experimental group (**EG**) and the control group (**CG**) during a school year highlights the following (X±m): **in EG**, in girls, there is an increase by 1.93 cm in final testing (FT), and an increase by 2.00 cm at FT in boys. **In CG,** in girls, there is an increase by 2.00 cm in FT; the boys have an increase by 2.19 cm in FT. Looking at the differences of the averages in girls, between groups, higher values are observed in EG at IT, by 5.75 cm (P<0.05) and by 5.69 cm at FT (P<0.05), while the values for boys in EG are 3.46 cm in IT (P>0.05) and 3.36 cm at FT (P>0.05).

Table 3.2. Dynamics of the evaluation of physical development level in fourth grade students (boys) within the experimental and control groups during a school year (n=11)

No.	*Parameters*	*Groups*	*Statistical indicators*			
			Initial testing X± m	***Final testing X± m***	***t***	***P***
1	Height (cm)	E	.	143.45±1.02	23.00	<0.001
		C	137.90±1.69	140.09±1.72	17.89	<0.001
		t	1.71	1.68	–	–
		P	>0.05	>0.05	–	–
2	Weight (kg)	E	36.45±1.08	37.71±1.14	12.07	<0.001
		C	32.09±1.84	33.42±1.81	13.98	<0.001
		t	2.04	2.00	–	–
		P	>0.05	>0.05	–	–
3	BMI (kg/m^2)	E	18.21±0.43	18.30±0.45	1.53	>0.05
		C	16.78±0.73	16.79±0.71	0.11	>0.05
		t	1.68	1.79	–	–
		P	>0.05	>0.05	–	–

Note: BMI – Body mass index;

n= 11	P -	0.05	0.01	0.001
df= 20		2.086	2.528	3.850
df= 11		2.228	2.764	4.587

The results of the evaluation of the body mass (kg*)* of the students included in the EG and CG, throughout a school year, show that (X±m) **in EG**, in girls, there is an increase by 0.99 kg at FT, and for the boys in IT there is an increase by 1.26 kg in FT. **In the CG,** girls, there is an increase by 1.18 kg in FT, and the boys have an increase by 1.33 kg in FT. Regarding the differences of the averages in girls, between groups, one can notice higher values in EG at IT, of 6.00 kg (P<0.01) and 5.82 kg at FT (P<0.01), while the boys from EG have 4.36 kg in IT (P>0.05) and 1.29 kg in FT (P>0.05).

The results of the evaluation of the body mass index (BMI), (kg/m^2)*,* of the students within EG și CG along a school year of study point out (X±m) the following: **in the EG**, girls, there is an increase by 0.02 kg/m² at FT (P>0.05), and for boys an increase by 0.09 kg/m² in FT (P>0.05). **In CG,** in girls, the BMI has an increase by 0.05 kg/m² at FT, (P>0.05) and the boys have an increase of 0.01 kg/m² in FT, (P>0.05). Regarding the differences of the averages in girls, between groups, higher values are observed in EG, at IT, of 1.69 kg/m (P>0.05) and of 1.65 kg/m² in FT (P>0.05); the boys of the EG have 1.43 kg/m² in IT (P>0.05) and 1.51 kg/m² in FT (P>0.05).

The tables 3.3 and 3.4 present the results of the evolution of the indicators of motor ability in the fourth grade students (girls and boys) within the experimental and control groups along a school year of study.

Table 3.3. Results of the evolution of the motor ability development indicators in the students of fourth grade (girls) in the experimental and control groups, in a school year of study (n=16)

No.	Tests		Groups and statistical indicators	Statistical indicators			
				Initial testing X± m	***Final testing X± m***	***t***	***P***
1	Torso raises from supine position in 30 sec (reps. no.)		E	13.06±0.49	15.62±0.42	20.01	<0.001
			C	12.87±0.30	14.56±0.24	14.10	<0.001
			t	0.33	2.21	–	–
			P	>0.05	<0.05	–	–
2	Torso extensions from sitting position 30 sec (reps. no.)		E	14.50±0.42	16.94±0.34	19.03	<0.001
			C	13.87±0.27	15.87±0.26	21.91	<0.001
			t	1.25	2.52	–	–
			P	>0.05	<0.05	–	–
3	Flamingo test (attempts no.)		E	2.31±0.29	1.25±0.21	7.41	<0.001
			C	2.31±0.25	1.5±0.20	5.97	<0.001
			t	0.00	0.84	–	–
			P	>0.05	>0.05	–	–
4	Torso bending fwd from sitting down(cm)		E	3.68±0.72	6.12±0.58	11.98	<0.001
			C	6.93±0.05	8.62±0.87	7.73	<0.001
			t	2.55	2.38	–	–
			P	<0.05	<0.05	–	–
5	Pull-ups from hanging position / gym bench (reps. no.)		E	10.81±0.48	13.00±0.48	21.71	<0.001
			C	12.50±0.54	14.43±0.45	13.51	<0.001
			t	2.32	2.16	–	–
			P	<0.05	<0.05	–	–
6	Matorin test (degrees)	Turn right	E	312.18±7.08	319.62±7.00	12.43	<0.001
			C	318.75±5.87	323.68±5.86	29.04	<0.001
			t	0.71	0.45	–	–
			P	>0.05	>0.05	–	–
		Turn left	E	264.06±10.33	270.62±10.06	16.09	<0.001
			C	270.31±10.27	275.56±10.24	36.37	<0.001
			t	0.43	0.34	–	–
			P	>0.05	>0.05	–	–
7	Hopscotch (sec)		E	30.5±1.90	26.5±1.56	10.05	<0.001
			C	27.12±1.26	24.62±1.19	15.81	<0.001
			t	1.48	0.95	–	–
			P	>0.05	>0.05	–	–
8	Applicative route (sec)		E	0.90±0.08	0.81±0.08	2.56	<0.05
			C	0.97±0.06	0.91±0.07	2.39	<0.05
			t	0.70	0.97	–	–
			P	>0.05	>0.05	–	–

n= 16	P -	0.05	0.01	0.001
df= 30		2.042	2.457	3.646
df= 15		2.131	2.602	4.073

Table 3.4. Results of the evolution of the motor ability development indicators in the students of fourth grade (boys) in the experimental and control groups, in a school year of study (n=11)

No.	Tests		Groups and statistical indicators	Statistical indicators			
				Initial testing X± m	***Final testing X± m***	***t***	***P***
1	Torso raises from supine position in 30 sec (reps. no.)		E	13.73±0.56	16.27±0.43	12.28	<0.001
			C	14.18±0.57	16.09±0.46	9.04	<0.001
			t	0.57	0.29	–	–
			P	>0.05	>0.05	–	–
2	Torso extensions from sitting position 30 sec (reps. no.)		E	14.73±0.60	17.00±0.43	9.59	<0.001
			C	15.73±0.60	17.64±0.59	11.74	<0.001
			t	1.17	0.87	–	–
			P	>0.05	>0.05	–	–
3	Flamingo test (attempts no.)		E	2.18±0.32	1.18±0.23	5.24	<0.001
			C	2.09±0.28	1.36±0.24	5.16	<0.001
			t	0.21	0.55	–	–
			P	>0.05	>0.05	–	–
4	Torso bending fwd from sitting down(cm)		E	4.82±1.19	7.18±1.10	11.63	<0.001
			C	4.09±0.81	6.54±0.69	15.59	<0.001
			t	0.51	0.49	–	–
			P	>0.05	>0.05	–	–
5	Pull-ups from hanging position / gym bench (reps. no.)		E	14.45±0.39	17.00±0.30	16.17	<0.001
			C	16.45±0.59	18.09±0.59	10.76	<0.001
			t	2.81	1.64	–	–
			P	<0.05	>0.05	–	–
6	Matorin test (degrees)	Turn right	E	313.18±8.24	319.09±8.36	17.25	<0.001
			C	315.45±8.13	321.09±7.94	11.93	<0.001
			t	0.19	0.17	–	–
			P	>0.05	>0.05	–	–
		Turn left	E	261.82±9.82	267.64±9.59	16.52	<0.001
			C	276.82±11.10	281.82±11.23	10.70	<0.001
			t	1.01	0.96	–	–
			P	>0.05	>0.05	–	–
7	Hopscotch (sec)		E	28.54±2.31	24.63±1.94	8.57	<0.001
			C	27.91±2.23	25.73±2.04	8.28	<0.001
			t	0.19	0.39	–	–
			P	>0.05	>0.05	–	–
8	Applicative route (sec)		E	0.66±0.08	0.55±0.6	2.17	>0.05
			C	0.77±0.09	0.74±0.09	7.11	<0.001
			t	0.85	1.72	–	–
			P	>0.05	>0.05	–	–

n= 11	P -	0.05	0.01	0.001
df= 20		2.086	2.528	3.850
df= 11		2.228	2.764	4.587

The results of the evaluation of the abdominal strength, appreciated by „ *Torso raises from supine position into sitting position, arms up, in 30 sec" (no. of reps)* of the students in EG and CG,

throughout a school year of study, point out the following elements (X±m): **in the EG**, in girls, there is an increase by 2.56 reps at FT, and in boys the increase is 2.54 reps at FT. **In the CG**, in girls, it can be noticed an increase by 1.69 reps in FT, and for the boys an increase by 1.91 reps at FT. As for the differences of the averages in girls, between groups, higher values are observed in EG, at IT, of 0.19 reps (P>0.05) and 1.06 reps in FT(P<0.05). As for the boys, in CG, there are 0.45 reps at IT (P>0.05) and in EG there are 0.18 reps in FT (P>0.05). Analyzing the level of performances achieved by both groups, for both girls and boys, and making a comparison with the scales of the National Evaluation System, the results of the tests point out a high level of development of the abdominal strength and correspond to the grade *„very good"*, with greater progress in EG.

The results of the evaluation of the back strength, appreciated by „*Torso extensions from sitting in supported supine position in 30 sec" (no. of reps),* in the students of EG and CG, all along a school year, highlight (X±m) **at EG**, in girls, an increase by 2.44 reps at FT, and in the boys an increase by 2.27 reps at FT. **In the CG**, in girls, it can be noticed an increase by 2.00 reps at FT, while the increase in the boys is 1.91 reps at FT. Regarding the differences of the averages in girls, between groups, higher values are observed in the EG at IT, by 0.63 reps (P>0.05) and by 1.07 reps at FT (P<0.05); as for the boys, in CG, by 1.00 reps at IT (P>0.05) and in EG by 0.64 reps at FT (P>0.05). As for the boys, in CG, there are 0.45 reps at IT (P>0.05) and in EG there are 0.18 reps in FT (P>0.05). Analyzing the level of performances obtained by both groups, girls and boys as well, and comparing with the data of the National Evaluation System, the results of the tests show a high level of development of back strength and comply with the grade *„very good"*, with higher progress in the experimental group of 0.44 reps in girls and 0.36 reps in boys.

The results of balance evaluation, checked by „ *Flamingo test – Keeping the body in balance on one leg" (number of reps/failures)* of the students in EG and CG, throughout a school year of study, reveal (X±m) that in the **EG**, in girls, there is an improvement by 1.06 reps at FT, and the boys have a decrease by 2.00 reps (failures) at TF. **In CG**, in girls, one can observe an improvement by 0.81 reps (falls); in the case of boys, a decrease by 0.73 reps (falls) in FT. Regarding the differences of the averages **in girls**, between groups, there are noticed equal values in IT of 2.31 reps (P>0.05) and 0.25 reps (penalties), more in CG at FT (P>0.05). As for the **boys,** there fewer penalties in CG, of 0.09 reps (falls) at the initial testing (P>0.05) and in the EG fewer penalties of 0.18 reps (falls) at FT (P>0.05). Analyzing the level of performance obtained by both groups, girls and boys as well, and comparing with the means of the ascertaining results, the test results highlight a lower level of balance development in both genders and with greater progress in the experimental group of 0.25 reps (falls) in girls and 1.27 reps (penalties) in boys.

The results of the evaluation of the mobility, appreciated by „*Torso bending forward from sitting on the gym bench" (cm),* of the studens included in the EG and CG, throughout a school year of study, point out the following matters: (X±m) in **EG**, at girls, there is an increase by 2.44 cm at FT, and in boys there is an increase by 2.36 at FT. **In CG**, in girls, there is an increase by 1.69 cm at FT, and the boys have an increase by 2.45 cm at FT. Concerning the differences of the averages in girls, between groups, higher values are observed in the control group at IT, by 3.25 cm ($P<0.05$) and by 2.5 cm in FT ($P<0.05$); in the boys there are higher values at EG, of 0.73 cm ar IT ($P>0.05$) and 0.64 cm at FT ($P>0.05$). Analyzing the level of the performances achieved by both groups, girls and boys as well, and making a comparison with the means of the ascertaining results, the test results show a higher level of development of joints mobility in both genders and with higher progress in the case of girls, of 0.75 cm in the experimental group, and in the case of boys of 0.09 cm in the control group.

The results of the evaluation of the arms strength, checked by „*Pull-ups from hanging position" (number of reps),* of the students from the EG and CG, along a school year, reveal (X±m) in the EG, in girls, an increase by 2.19 reps at FT, and in boys an increase by 2.55 reps at FT. In the CG, in girls, there is an increase by 1.93 reps at FT, and in boys at IT; the value has an increase of 1.64 reps at FT. In terms of differences of the averages between groups, in girls, one can observe higher values in the control group, at the initial testing, of 1.69 reps ($P<0.05$) and of 1.43 reps in final testing ($P<0.05$); as for the boys, in the control group, there are values of 2.00 reps at the initial testing ($P<0.05$) and of 1.09 reps in final testing ($P>0.05$). The analysis of the performances obtained by both groups, girls and boys as well, we notice that the results of the tests highlight a high level of development of the arms strength, with greater progress in the experimental group, of 0.26 reps in girls and 0.91 reps in boys.

The results of the general coordination evaluation, appreciated by means of the „*Matorin test, jump with 360° turn to the right" (degrees),* of the students in the EG and CG, during a school year, show at the **EG**, in girls, an increase of 7.44 degrees, at FT; in the case of boys, there is an increase of 5.91 degrees at FT. **At the CG**, in girls, there is an increase of 4.93 degrees at FT, and the boys have an increase of 5.64 degrees at FT. Regarding the differences of the averages in girls, between groups, higher values are observed in CG, at IT, namely 6.57 degrees ($P>0.05$) and 4.06 degrees at FT ($P>0.05$). In the case of the boys too, in CG there are 2.27 degrees at IT ($P>0.05$) and 2.0 degrees at FT ($P>0.05$). Analyzing the level of the performances achieved by both groups, girls and boys as well, the test results point out a high level of development of the general coordination – turn to the right – with greater progress in the experimental group, of 2.51 degrees in girls and 0.27 degrees in boys.

The results of the evaluation of the general coordination, appreciated by means of the „*Matorin test, jump with 360° turn to the left" (degrees),* of the students included in EG and CG, thorughout a school year of study, highlight (X±m) **at EG**, in girls, an increase of 6.56 degrees at FT, and in boys an increase of 5.82 degrees at FT. **At the CG**, in girls, one can observe an increase of 5.25 degrees at FT, and in boys an increase of 5.00 degrees at FT. As for the differences of the averages in girls, between groups, higher values are noticed in the CG at IT, of 6.25 degrees (P>0.05) and of 4.94 degrees at FT (P>0.05). The values for boys, also in CG, are 15.0 degrees at IT (P>0.05) and 14.18 degrees at FT (P>0.05). Analyzing the level of the performances obtained by the two groups, both girls and boys, the test results show a high level of development of the general coordination – turn to the left – with greater progress in the experimental group, of 1.31 degrees in girls and 0.82 degrees in boys.

The results of the coordination capacity evaluation, checked by means of the „*Hopscotch" (sec),* of the students belonging to EG și CG, along a school year, highlight (X±m) **in EG**, in the case of girls, that there is a decrease of 4.0 sec at FT, and the boys have a decrease of 3.91 sec at FT. **In the CG**, the girls have a decrease of 2.5 sec at FT and the boys have a decrease of 2.18 sec at FT. As for the differences of the averages of girls between groups, better values are observed at CG, in IT, of 3.38 sec (P>0.05) and of 1.88 sec at FT (P>0.05); in the case of the boys, also at CG, a value of 0.63 sec in IT (P>0.05) and in EG a value of 1.1 sec at FT (P>0.05). Analyzing the level of the performances recorded by the two groups, both girls and boys, the test results highlight a big level of development of the coordination capacity, with greater progress in the experimental group, of 2.5 sec in girls and 1.73 sec in boys.

The results of the motor skills evaluation, appreciated by „ *Utilitarian-applicative route" (sec).* of the students within EG and CG, throughout a school year of study, highlight (X±m) that **in EG** the girls have a decrease of 0.09 sec at FT (P<0.05), while the boys have a decrease of 0.11 sec at FT (P>0.05). **In CG**, in girls, there is a decrease of 0.06 sec at FT (P<0.05) and the boys have a decrease of 0.03 sec at FT, (P<0.001). Regarding the differences of the averages in girls, between groups, better values are observed in EG at IT, of 0.07 sec (P>0.05) and of 0.1 sec at FT (P>0.05); in the case of the boys, also in the EG, the value is 0.11 sec at IT (P>0.05) and 0.19 sec at FT (P>0.05). Analyzing the level of the performances obtained by both groups, girls and boys as well, the test results show a high level of development of the motor skills, with greater progress in the experimental group, of 0.03 sec in girls and 0.08 sec in boys.

The tables 3.5 and 3.6 show the results of the evolution of the harmonious physical development level and the initiation in gymnastics of the fourth grade students (girls and boys) of the experimental and control groups, along a school year.

Table 3.5. Results of the evolution of the level of harmonious physical development and initiation in gymnastics of the fourth grade students (girls) within the experimental and control groups throughout a school year of study (n=16)

No.	Testing	Indicators	*Memorization of execution of a complex of EDFG (grading)*			*Level of initiation in gymnastics (grading)*		
			4 exer. 4x4 count	5 exer. 4x8 count	6 exer. 4x8 count	Fwd. horiz. stand on one knee with Pl on floor; fwd tuck roll	+ pushing up into a bridge	+ standing on shoulder blades
			S	W	VW	Sufficient	Well	Very well
E.G.	Initial	n	6	6	4	2	10	4
		%	37.5	37.5	25	12.5	62.5	25
	Final	n	2	6	8	-	7	9
		%	12.5	37.5	50		43.75	56.25
C.G.	Initial	n	3	9	4	-	12	4
		%	18.75	56.25	25		75	25
	Final	n	2	9	5	-	11	5
		%	12.5	56.25	31.25		68.75	31.25

Note: E.G. –experimental group; C. G.– control group; n – number of subjects; S – sufficient; W – well; VW – very well; Fwd. horiz. stand – forwards horizontal stand; Pl. – palms; fwd – forwards; tuck. – tucked

Table 3.6. Results of the evolution of the level of harmonious physical development and initiation in gymnastics of the fourth grade students (boys) within the experimental and control groups throughout a school year of study (n=11)

No.	Testing	Indicators	*Memorization of execution of a complex of EDFG (grading)*			*Level of initiation in gymnastics (grading)*		
			4 exer. 4x4 count	5 exer. 4x8 count	6 exer. 4x8 count	Fwd. horiz. stand on one knee with Pl on floor; fwd tuck roll	+ pushing up into a bridge	+ standing on shoulder blades
			S	W	VW	Sufficient	Well	Very well
E. G.	Initial	n	4	4	3	1	6	4
		%	36.4	36.4	27.2	9.1	54.5	36.4
	Final	n	1	4	6	-	3	8
		%	9.1	36.4	54.5	-	27.27	72.73
C. G.	Initial	n	4	3	4	1	7	3
		%	36.4	27.2	36.4	9.1	63.63	27.27
	Final	n	2	4	5	1	6	4
		%	18.2	36.4	45.4	9.1	54.5	36.4

Note: E.G. –experimental group; C. G.– control group; n – number of subjects; S – sufficient; W – well; VW – very well; Fwd. horiz. stand – forwards horizontal stand; Pl. – palms; fwd – forwards; tuck. – tucked

The results of the evaluation of the level of harmonious physical development, appreciated by means of „*Memorization of execution of a complex of free exercises for general physical development in the students of the fourth grade" (grading),* of the students included in EG and CG, during a school year of study, highlight the following observations on the grading: **in the EG*, in girls,*** there is an increase by 25% at FT, the grading *Well* (W) has a share equal to the one at the final testing, while the grading *Sufficient* (S) has a decrease by 25% at FT; ***in boys*** it has an increase

by 27.3% at FT, the grading „*W"* equal to the one at the FT, while the grading „*S"* has a decrease by 27.3% at FT. **In the CG**, ***in girls,*** there is an increase by 6.25% at FT, the grading *„W"* is equal to the one at FT and the grading *„S"* has a decrease by 6.25% at FT. ***In boys*** it has an increase by 9.0% at FT, the grading *„W"* has an increase by 9.2% at FT, while the grading *„S"* has a decrease by 18.2% at FT. Regarding the differences in the share of the grading ***in girls,*** between groups, it can be noticed at IT the grading *„VW"* for both groups that have the same level of execution, while at FT, at EG, there is a level of execution higher by 18.75%, the grading *„W"* is higher by 18.75% at both tests in CG, while the grading *„S"* at CG is higher by 18.75% at IT and equal to 12.5% in both groups. In the case of ***the boys***, the differences between groups are observed at the initial testing, where the grading *„VW"* is reduced by 9.2% in EG and increases by 9.1% at FT, namely the requirements of execution are better, the grading *„W"* is higher by 9.2% at EG in IT and equal in both groups at FT, while the grading *„S"* is equal in both groups by 36.4% and decreases by 9.1% in EG at FT. Analyzing the level of the performances achieved by both groups, girls and boys as well, the test results show a high level of memorization of the execution of the complex of free exercises of general physical development, with greater progress in the EG, in ***girls***, where the grading ”VW” is of 18.75%, ”W” is equal and ”S” is 18.75% . In the case of the ***boys***, the grading ”VW” is of 18.3%, ”W” is 9.2% at CG and ”S” is 9.1% at EG, namely following the diversification of the content of gymnastics means, the students of the experimental group succeeded to improve the performance descriptors of the execution of EDFG.

The results of the evaluation of the level of harmonious physical development, appreciated by the „*Execution of a compulsory exercise of acrobatic gymnastics for the students of the fourth grade" (grading)"* by the students included in EG and CG, along a school year of study, highlight **in EG, *in girls***, an increase of 31.25% at FT, improving the execution of 4 isolated acrobatic elements (IAE), with minor mistakes of execution or 3 IAE, correctly observing the technical execution; the grading *Well* (W) has an increase of 18.5% at FT, improving the execution of 3 IAE with minor mistakes of execution or 2 IAE, respecting the technical execution correctly, while the grading *Sufficient* (S) has a decrease by 12.5% at FT, namely all girls corrected the execution mistakes; in the case of the ***boys***, at IT, the grading „*VW"* has an increase of 36.33% at FT, the grading „*W"* has a decrease by 27.23% at FT and the grading „*S"* has a decrease by 9.1% at FT. All students corrected the execution mistakes. **In CG, *in girls,*** at IT the grading *„VW"* has an increase of 6.25% at FT, the grading *„W"* has an increase by 6.25% at FT; as for the grading *„S"*, there were no students with this level of execution; ***in boys***, at IT. the grading *„VW"* has an increase of 9.13% at FT, the grading *„W"* has an increase of 9.13% at FT and the grading *„S"* is 9.1% at FT.

Regarding the differences in the share of the grading ***in girls,*** between groups, it can be noticed, at the initial testing, the grading *„VW”* in both groups, which have the same execution level, while the EG has an execution level higher by 25% at FT; in CG, the grading *„W”* is higher by 12.5% at IT and by 25% la FT, while the grading *„S”* is higher in EG by 12.5% at IT and without appreciations at FT, in both groups. For ***boys*** the differences between groups are recorded at IT, the grading *„VW”* is higher by 9.13% at EG and increases by 36.33% in final testing, the execution requirements are improved (performance descriptors grading ”W”). The grading *„W”* is higher at CG by 9.13% at IT and higher in CG by 27.23% at FT, while the grading *„S”* is equal in both groups, namely 9.1%, and decreases by 9.1% in EG at FT.

Analyzing the level of the performances achieved by both groups, girls and boys as well, the results of the tests show that the level of learning the isolated acrobatic elements in the experimental group is the following one: ***in girls***, the grading *”VW”* is equal between groups, ”W” is higher by 12.5% and ”S” is recorded only in the experimental group, while ***the boys*** have bigger progress at the grading” *VW*”, of 27.2%, and 18.1% at ”W” in the experimental group and 0.03% at ”S” in the control group. That means the students of the experimental group succeeded to improve their performance descriptors in the execution of the isolated acrobatic elements thanks to the diversification of the content of gymnastics means.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The results of the experimental research carried out by us led to the elaboration of the following general conclusions:

1. Within the conceptual study of the "Physical Education and Sports" curriculum for primary school, it showed us that the curricular education system contains a set of tasks for the integral formation of knowledge, qualities, abilities and attitudes of students. The modernized National Curriculum for general education operates with three types of competences (Key/transversal/transdisciplinary competences. Competences specific to school disciplines and Competence units). The curricular area ”Physical Education and Sports” has specific contributions to all eight areas of key competences, where the specific contribution of the discipline ”Physical education”, by analyzing each area of key competencies, led to the determination of *knowledge, skills and attitudes.*

2. The curriculum of the discipline "Physical Education" is developed according to a new model of curriculum design, skills-focused. The construction of the curriculum is made so as to contribute to the development of the training profile of the student from the primary cycle. In this respect, the new evaluation system is based on performance evaluation criteria, formerly called

"fitness testing rules" and now "performance descriptors". At this stage of education, the evaluation system by marks has been replaced by the grading system, which was imposed by several considerations.

3. The results of the analysis of specialists' opinions on the use of gymnastics means in Physical Education lessons in primary school highlight very good appreciations of the content of gymnastics in the primary cycle and the higher share of gymnastics means in the Physical Education lesson. It was found that the diversification of the content of gymnastics can contribute to the improvement of the school curriculum in the primary cycle and the need to develop a practical-methodical guide for teaching the content of gymnastics means.

4. Regarding the evaluation of the level of physical and motor development of the students from the preparatory and primary classes, the results of the development of the motor abilities in the students from the preparatory and primary classes are highlighted and the physical condition level of the students at the beginning of the pedagogical experiment is presented. These values are initial indicators for the further scientific approach, in order to stagger the learning units within the experimental curriculum.

5. Regarding the determination of the level of mastery of the gymnastics content by the students in research, this was done at the beginning of the primary cycle, in the first grade and at the end of the cycle – the fourth grade. The results of the harmonious physical development related to the *memorization of the execution of a complex of EDFG* in the students of the first class highlight a bigger grading “VW” in girls; the grading “W” is higher in boys while the grading “S” is higher in girls. In terms of gymnastics initiation of the first class students by means of the execution of a compulsory exercise of acrobatic gymnastics, one can observe a higher grading “VW” in boys, the “W” grading in girls and a bigger grading “S” in girls.

6. The results of the harmonious physical development of the students in fourth grade by memorizing the execution of a complex of EDFG highlight a bigger grading “VW” in boys; the grading “ W” is bigger in boys; the grading “S” is higher in girls . Regarding the level of gymnastics initiation of the fourth grade students, appreciated by the execution of a compulsory exercise of acrobatic gymnastics, one can observe the following: a higher grading “VW” in boys; the grading “W” is higher in girls; the grading “S” is higher in boys.

7. The elaboration of the experimental curriculum was the basis of the comparative analysis of the school curricula for primary education in Romania and the Republic of Moldova. Based on the study, we can mention that, in the experimental curriculum, the proposed contents ensured, during a school year, the diversification of the gymnastics means within all the links of the Physical Education lesson. The results of the share of the experimental curriculum components, depending on

the annual staggering of the principal, secondary and permanent learning units highlight 116 principal weeks, 96 secondary weeks, 102 permanent weeks and 304 total weeks.

8. Selecting the learning units with gymnastics content from the experimental curriculum, it was found that 73.7% of the learning units belonged to the means of gymnastics and 26.4% of the learning units - to the content of other disciplines. The distribution of the means in the first semester corresponds to 25% learning units from gymnastics means and 24.3% from other contents. These data highlight the volume and the way of diversifying the content within the curricular area "Physical Education and Sports" for students in the fourth grade, as goal of the primary cycle.

9. The analysis of the didactic design of the learning units staggering within the experimental group highlights 6 learning units and a sequence of physical fitness tests. The way of applying the experimental curriculum of the learning units entailed their distribution in units with principal, secondary and permanent status. Regarding the realization and distribution of the learning units within their staggering both by semesters and throughout the school year, the learning unit "*Motor skills specific to sports disciplines*" highlights 16.8% units planned with permanent and secondary status and 11.8% in the first semester, out of which 5.6% specific to athletics; 7.9% specific to gymnastics, namely initiation in acrobatic gymnastics, jumps over apparatus. It was proposed to complete the school curriculum with contents from the means of rhythmic and aerobic gymnastics; 3.3% was allocated to sports games (initiation in basketball, football / rugby tag). In this regard, we can say that the analysis of the content of the experimental curriculum in the discipline "Physical Education and Sports" in fourth grade students reveals the share of distribution and achievement of learning units with the principal, secondary and permanent status, both during the school year and by semesters. Also, the selection of the learning units specific to gymnastics highlights that 73.7% of the content of the curricular area "Physical Education and Sport" belongs to gymnastics and 26.4% - to other means.

10. The dynamics of the evaluation of physical development level in fourth grade students (girls and boys) throughout a school year shows a higher increase in height of the boys in the experimental group, by 2.00 cm, and in the boys of the control group by 2.19 cm; the results of the evaluation of the body mass in the experimental group show higher values in boys, of 1.26 kg, and in the control group - of 1.33 kg; the results of the evaluation of body mass index in the experimental group have a higher increase in boys, of 0.09 kg/m², and in the control group, at girls - 0.05 kg/m².

11. The results of the evolution of the indicators of motor abilities development in the fourth grade students (girls and boys) show: increase of the **abdominal strength** in the experimental group (EG), in girls, and in the control group (CG) – in boys; **increase of back strength** in EG - boys and in CG - girls; **improvement of balance** („Flamingo Test") in EG – in girls, while in CG – in boys;

improvement of mobility in EG – in boys, while in CG – in girls; **increase of arms strength,** the experimental group – in boys and the control group – in girls; **improvement of general coordination** - „ Matorin Test, jump with 360° jump to the right", the experimental group – in girls and the control group – in boys; „ Matorin Test, jump with 360° jump to the left", the experimental group – in girls and the control group – in boys ; **improvement of coordination capacity,** appreciated by means of „Hopscotch" – the experimental group, in girls and the control group, in boys; as for the results of the evaluation of the coordination capacity, appreciated by „ Applicative-utilitarian route", in the experimental group the boys have an improvement of 0.11 sec, while in the control group the girls have an improvement of 0.06 sec.

12. The results of the evaluation of harmonious physical development (HPD), checked by means of „ Memorization of execution of a complex of free exercises for general physical development", in EG, in girls, there is an increase by 25%, the grading "Well" (W) is equal to the one in the final testing, the grading "Sufficient" (S) has a decrease by 25%; as for the boys, the grading „Very Well" (VW) has an increase by 27.3%, the grading „W" is equal to the one in the final testing, and the grading „S" has a decrease by 27.3%. In the control group, in girls, the grading „VW" has an increase of 6.25%, the grading „W" is equal to the one in the final testing, and the grading „S" has a decrease by 6.25%; in boys, the grading „VW" has an increase of 9.0%, the grading „W" an increase of 9.2% and the grading „S" a decrease of 18.2%.

13. The results of the evaluation of the level of initiation in gymnastics, appreciated by „execution of a compulsory acrobatic gymnastics exercise for students in the fourth grade" , highlight that in the experimental group, in girls, the grading "Very Well" (VW) has an increase by 31.25%; the grading "Well" (W) has an increase by 18.5% and the grading "Sufficient" (S) has a decrease by 12.5%; in boys, the grading „VW" has an increase by 36.33%, the grading „W" has a decrease by 27.23% and the grading „S" has a decrease by 9.1%. In the control group, in girls, the grading „VW" has an increase of 6.25%, the grading „W" has an increase by 6.25% ; as for the grading „S" , there were no students with such a level of execution; in boys, the grading „VW" has an increase of 9.13%, the grading „W" has an increase of 9.13% and the grading „S" is 9.1%.

14. The results obtained after the research, which contributed to solving an important scientific problem in the field, consist of the scientific and methodological substantiation of the improvement of the curricular area "Physical Education and Sports" in primary school, through the diversification of the content of the gymnastics means introduced in the experimental curriculum elaborated.

15. In conclusion, the diversification of the content of gymnastics within the experimental curriculum for primary school students has contributed to making better the level of motor skills development and initiation in gymnastics, which led to the improvement of the area of the

curriculum "Physical Education and Sports" by justifying the share of the principal, secondary and permanent learning units within the didactic design carried out.

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The primary school teachers should consider the following recommendations:

- to take into account the particularities of age and the level of physical training of the students during the process of organizing and carrying out the activities of physical education;
- to select and implement on a large scale the curricular didactic contents in the process of directed influence on the motor qualities;
- to plan even two utilitarian-applicative motor skills within the Physical Education lessons, monitoring the alternation of the effort demands;
- to select and apply on a large scale the curricular didactic contents during the process of directed influence on the utilitarian-applicative motor skills;
- to monitor the staggering of the learning units with status of principal, secondary and permanent ones both throughout the year and by semesters;
- to respect the curricular standards for the evaluation of the psychomotor skills and basic physical qualities.

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ADNOTARE

Potop Larisa ”*Perfecţionarea ariei curriculare Educaţie fizică şi sport în învăţământul primar prin diversificarea conţinutului gimnasticii***”.** Teză de doctorat în științe ale educației, specialitatea 533.04 – Educație fizică, sport, kinetoterapie și recreație, Chișinău, 2021.

Structura tezei: Lucrarea este alcătuită din: introducere, 3 capitole, concluzii generale și recomandări, bibliografie 306 titluri, 13 anexe, 127 pagini text de bază, 84 figuri, 22 tabele. Rezultatele obținute sunt publicate în 10 lucrări științifice.

Cuvinte-cheie: aria curriculară educație fizică și sport, curriculum școlar, învățământul primar, conținuturi didactice, competențe, mijloacele gimnasticii, predare-învățare, proiectarea didactică, eșalonarea unităților de învățare, programa experimentală de aplicare, evaluare.

Domeniul de cercetare: ştiinţe ale educaţiei.

Scopul cercetării constă în perfecţionarea ariei curriculare „Educație fizică și sport în învățământul primar” prin diversificarea conținutului gimnasticii cu unități de învățare principale, secundare și permanente.

Obiectivele cercetării: 1. Studierea conceptelor metodologice privind perfecționarea ariei curriculare la educația fizică și sport prin diversificarea conținutului gimnasticii la elevii din învățământul primar; 2. Analiza opiniilor specialiștilor privind folosirea mijloacelor gimnasticii în lecţiile de educaţie fizică din învățământul primar; 3. Aprecierea nivelului dezvoltării somatice, pregătirii fizice și nivelului de însușire a conținutului gimnasticii a elevilor din clasele primare; 4. Argumentarea și valorificarea eficienței diversificării conținutului gimnasticii în vederea perfecționării ariei curriculare educație fizică și sport la elevii din învățământul primar.

Noutatea și originalitatea științifică: constă în faptul că lucrarea își propune să contribuie la perfecționarea ariei curriculare educație fizică și sport prin diversificarea conținutului gimnasticii cu unități de învățare principale, secundare și permanente.

Rezultatele obținute care contribuie la soluționarea unei probleme științifice importante constau în fundamentarea din punct de vedere științific și metodologic a perfecționării ariei curriculare educație fizică și sport în învățământul primar, prin intermediul diversificării conținutului mijloacelor gimnasticii introduse în programa experimentală elaborată.

Semnificația teoretică este dată de următoarele elemente: concepțiile teoretico-metodice privind teoria și metodica educației fizice școlare; importanța diversificării mijloacelor gimnasticii în cadrul ariei curriculare educație fizică și sport în înățământul primar; optimizarea procesului instructiv-educativ; posibilitățile de îmbunătățire a nivelului pregătirii fizice și de însușire a conținutului gimnasticii a elevilor din clasele primare.

Valoarea aplicativă: constă în posibilitatea utilizării rezultatelor cercetării, a programei experimentale, în scopul perfecționării ariei curriculare la disciplina educației fizică și sport în învățământul primar. Programa poate fi folosită în procesul de instruire a viitorilor profesori de educație fizică și formarea continuă a cadrelor didactice din domeniul culturii fizice, atât pentru învățământul primar, cât și posibilități de adaptare a modalităților metodologice de aplicare și în învățământul gimnazial și liceal.

Implementarea rezultatelor ştiinţifice. Conținutul programei experimentale de cercetare a fost aplicat în scopul perfecționării ariei curriculare educație fizică și sport în învățământul primar și a fost implementat în procesul de studii în Școala Gimnazială ”Șerban-Vodă” din București, Școala gimnazială ”I.G. Duca”din București, Școala gimnazială ”Coresi” din Târgoviște, Școala gimnazială ”Grigore Moisil” din Timișoara, Liceul Tehnologic ”Eremia Grigorescu” din Mărășești, Școala gimnazială ”Duiliu Zamfirescu” Focșani fapt care este confirmat de adeverințele de implementare.

АННОТАЦИЯ

Потоп Лариса *«Совершенствование учебной программы по физическому воспитанию и спорту в начальной образовании посредством диверсификации содержания гимнастики».* Диссертация на соискание ученой степени кандидата педагогических наук по специальности 533.04 - Физическое воспитание, спорт, кинетотерапия и рекреация, Кишинев, 2021.

Структура диссертации: аннотация на трех языках, введение, 3 главы, библиография – 306 источников, 13 приложений, 127 страниц основного текста, 84 рисунков, 22 таблиц. Полученые результаты опубликованы в 10 научных работ.

Ключевые слова: учебная программа физическое воспитание и спорт, начальное образование, дидактическое содержание, основными, средними и постоянными учебными модулями, экспериментальная прикладная программа, оценка.

Цель исследования состоит в улучшение учебной программы физического воспитания и спорта в начальной образовании посредством диверсификации содержания гимнастики с основными, средними и постоянными учебными модулями.

Задачи исследования:1. Изучение методологических концепций по совершенствованию учебной программы по физическому воспитанию и спорту посредством диверсификации содержания гимнастики младших школьников;2. Анализ мнений специалистов относительно использования средств гимнастики на уроках физического воспитания в начальной школе; 3. Оценка уровня соматического развития, двигательной подготовки и уровня усвоения содержания гимнастики младших школьников; 4. Обоснование и эффективности использование диверсификации содержания гимнастики с целью совершенствования программы физического воспитания и спорта среди учащихся начальной школы.

Научная новизна и оригинальность состоит в том, что она направлена на содействие совершенствованию учебной программы физического воспитания и спорта посредством диверсификации содержания гимнастики с основными, средними и постоянными учебными модулями.

Полученные результаты, которые способствуют решению важной научной проблемы, состоит в научном и методологическом обосновании заключаются в научно-методическом обосновании совершенствования учебной прогрвммы физического воспитания и спорта в начальном образовании посредством диверсификации содержания гимнастики, внесенной в разработанную экспериментальную программу.

Теоретическая значимость работы заключается в теоретико-методических концепциях в области теории и методики школьного физического воспитания; важность диверсификации средств гимнастики в учебных программах физического воспитания и спорта в начальной школе; оптимизация учебно-воспитательного процесса; возможности повышения уровня физической подготовки и овладения содержанием гимнастики младших школьников.

Практическая значимость состоит в возможности использования результатов исследования, экспериментальной программы для совершенствования учебной программы физического воспитания и спорта в начальном образовании. Программа может быть использована в процессе подготовки будущих преподователей по физическому воспитанию и непрерывного образования учетилей в области физической культуры, как для начальных школ, так и для возможности адаптации применения и в средних и старших школ.

Внедрение научных результатов. Содержание иследования экспериментальной программы может быть использовано с целью совершенствования школьной программы физическое воспитание и спорта в начальной образовании и было о внедрено в учебный процесс в гимназия «Щербан-Вода» г. Бухарест, гимназия «Кореси» в Тырговиште, гимназия «Григоре Моисил» г. Тимишоара, гимназия г. Фокшань, что подтверждено соответствующими сертификатами.

ANNOTATION

Potop Larisa "*Improving the curricular area of Physical Education and Sport in primary school by diversifying the content of gymnastics***".** Doctoral thesis in education sciences, specialty 533.04 – Physical education, sports, kinesiotherapy and recreation, Chișinău, 2021.

Structure of the thesis: The paper consists of: introduction, 3 chapters, general conclusions and recommendations, bibliography 306 titles, 13 annexes, 127 pages of basic text, 84 figures, 22 tables. The obtained results are published in 10 scientific papers.

Keywords: „Physical Education and Sports" curricular area, primary education, didactic contents, competencies, means of gymnastics, teaching-learning, didactic design, staggering of learning units, experimental application program, evaluation.

Research field: educational sciences.

The purpose of the paper is to improve the „Physical Education and Sport in primary school" curricular area by diversifying the content of the content of gymnastics with main, secondary and permanent learning units.

Research objectives: 1. Studying the methodological concepts on the improvement of the curricular area in Physical Education and Sports by diversifying the gymnastics content in the primary school students; 2. Analysis of the opinions of specialists regarding the use of gymnastics means in the classes of physical education in primary school; 3. Assessing the level of somatic development, physical training and level of mastering the gymnastics content by the primary school students; 4. Substantiation and turning into good account the efficiency of the gymnastics content diversification in order to improve the „Physical Education and Sports" curricular area in the primary school students.

The novelty and scientific originality consists in the fact that the paper aims to contribute to the improvement of the „Physical Education and Sports" curricular area by diversifying the content of the content of gymnastics with main, secondary and permanent learning units.

The obtained results that contribute to the solution of an important scientific problem in the thesis consist in substantiating the improvement of the curricular area of Physical Education and Sports in primary school, from scientific and methodological point of view, by enlarging the content of the gymnastics means introduced in the experimental program elaborated.

The theoretical significance is given by the following elements: theoretical-methodical conceptions regarding the theory and methods of school physical education; importance of diversifying the means of gymnastics within the curricular area of Physical Education and Sport in the primary school; optimization of the instructive-educational process; possibilities to improve the level of physical training and assimilation of the gymnastics content by the primary school students.

The applicative value consists in the possibility to use the results of the research and of the experimental program for improving the Physical Education and Sport curricular area in the primary school. The program can be used in the education process of the future teachers of Physical Education and Sport and the continuous training of the teaching staff in physical culture field in primary school - with adaptation possibilities of the methodological modalities of application in the middle and high school too.

Implementation of the scientific results. The content of the experimental research program was applied for improving the Physical Education and Sport curricular area in the primary school and was implemented in the studies process in "Serban Voda" Middle School of Bucharest, "I.G. Duca" Middle School of Bucharest, "Coresi" Middle School of Târgoviște,"Grigore Moisil" Middle School of Timișoara, "Eremia Grigorescu" Technological High School Of Mărășești, "Duiliu Zamfirescu" Middle School of Focșani, fact which is confirmed by the implementation certificates.

POTOP Larisa

IMPROVING THE CURRICULAR AREA OF PHYSICAL EDUCATION AND SPORTS IN PRIMARY SCHOOL BY DIVERSIFYING THE CONTENT OF GYMNASTICS

Specialty: 533.04 – Physical education, sports, kinesiotherapy and recreation

Abstract of the doctoral thesis in education sciences

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