

Using Dance Exercises at Physical Training Lessons in the 5-th Forms as a Mean of Versatile Development of Pupils

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Abstract

The research deals with a problem of using dance exercises at physical training lessons as a mean of versatile development of the 5-th form pupils. The purpose of research is in developing program of using dance exercises at physical training lessons and experimental checking of its efficiency. Three content components of the program have been identified: aesthetic, motional and gender. The program content, which was implemented on three stages, has been substantiated: at the first stage, pupils acquired theoretical knowledge and practical abilities to perform the basic dance elements; in the process of the second stage the technique of dance exercises was brought to the level of perfection, physical qualities and moral-volitional behavior traits were formed; at the third stage was developed the ability of children to create new compositions that were corresponded to the individual possibilities of each pupil. Into the basis of the motional component is laid: classical dance, folk dance (polka, waltz); Latin dance (cha-cha-cha and jive); aerobics. It has been determined dance exercises as the basic forms of classes and the ways of educational activity organization.

Keywords: dance exercises, pupils, choreography, versatile development, physical training lesson

1. Introduction

An important motivational stimulus for pupils to do physical exercises is increased attention to the beauty of their appearance, so physical training at school should be built so that they would be justified not only from the physical, medical and functional point of view, but also from the aesthetic point of view. Given this, increasing pupils' interest to physical training is possible by choosing means that have high aesthetic potential [1; 2; 3]. One of such means are dance exercises, which are increasingly popular because they form a posture, harmoniously develop muscles, movements become beautiful and graceful [4; 5].

Exercises with elements of sports and ballroom dance, classical dance, modern dance and also aerobics, which comprehensively improve motional abilities of pupils, take leading place among dance exercises. They are effective way of recreational physical culture, promote a formation of movements culture, development of systems and functions of organism, formation of schoolchildren's postures. Moreover, dances contribute to their intellectual development and artistic education, form aesthetic culture of a person, his ability to perceive, understand and appreciate beautiful things [6; 7; 8].

Analysis of scientific and methodical literature shows a significant interest of specialists in physical education and sports in the problem of choreography development [9; 10]. This is due to the fact that dance exercises are one of the factors for improving the physical and technical training of pupils [11]. A high level of the school dancers' development is a basis of mastering complex motional actions [12].



Thus, the relevance of our research is determined, on one hand, by value and importance of dance exercises as a mean of diverse schoolchildren's development, on the other hand – by absence of solving the problem in scientific and methodical literature, and that has caused the choice of research topic.

The purpose of the study is to develop the program of using dance exercises at physical training lessons and experimentally check its efficiency.

To achieve the purpose, the following tasks were identified:

1. Theoretically substantiate specialties of using dance exercises at physical training lessons.
2. To identify the attitude of teachers of physical training and pupils to using dance exercises in educational process.
3. To develop a program of using dance exercises at physical training lessons.
4. To determine the content, stages and forms of using dance exercises at physical training lessons.

2. Materials and Methods

To solve the tasks the following methods of research were used: study of literary sources; theoretical analysis, synthesis and modeling; interviews and questionnaires; pedagogical observation and pedagogical experiment; testing (physiological); methods of mathematical statistics.

To find out the state of using dance exercises in the practice of secondary schools, the study curricula on physical culture, published by the Ministry of Education and Science of Ukraine, have been analyzed. Analysis of the program content allows making a conclusion that insufficient attention is paid to the use of dance exercises in the process of physical education of schoolchildren. In particular, the list of dance exercises provided in school curricula is practically the same; classical dance and rhythmical gymnastic the most often are used; the sequence of placing separate elements of dance in classes is ill-considered. For example, it is proposed to study three positions of feet in the second form, but in the third – first and second; it is not mentioned about positions of arms in any curriculum at all; little attention is paid to polka and waltz steps, which are performed by pupils usually on school-leaving parties, and they are used only in the elementary school and as individual steps, not as a composition; in the curricula of the seventh and eighth forms there are no dance exercises at all; practically no attention is paid for teaching dancing boys, especially in high school; aerobics competitions between schools are held every year, in which pupils from 5-th to 12-th forms take part, but to this kind of activity due attention is not paid. Current curricula underestimate the possibilities of dance exercises in the establishment of national system of physical education where, the accent should be placed on the personality of pupils, the relationship between physical and aesthetic education.

To identify the attitude of physical training teachers to dance exercises and using them at the lessons we made a questioner among physical training teachers and 5-th form pupils of the Western regions of Ukraine. The poll of physical training teachers about the use of dance exercises as a mean of physical education found out that only 17,5% systematically and 50,6% of respondents occasionally offer them to schoolchildren. The rest do not have suitable conditions and musical accompaniment and appropriate training such as study curricula of universities did not provide for purposeful dance training; do not master the dance exercises and are not provided with methodical literature. At the same time, dance exercises are more often used by women teachers.

It is considered appropriate to practice dance exercises at the lessons of physical training 90,4% of respondents, such as they: «develop coordination of movements»; «increase emotionality during studies»; «organize a class»; «set a rhythm of a lesson»; «soothe the nervous system»; «stimulate interest for physical culture»; «form and strengthen the posture»; «manifest creative skills of a child»; «bring up beauty, elegance, respect, have a health value».

The questionnaire of pupils has found that: 50,7% of them want that dance exercises would be used at the lessons of physical training; 57,5% of schoolchildren would like to have music played at the physical training lessons; 25,5% of respondents would prefer dance exercises among different types of motional activity, if they had such a choice. The most pupils like collective actions (45,5%) at the lessons of physical culture, and are not satisfied with: a strict regulation of their activities (28%), light load (32%) and monotony (20%).



The conversation revealed that these children consciously perceive physical activity as one of the important conditions for a full-fledged life and human development. Motional activity is considered by them as a biological irritant that stimulates the process of growth, development and formation of human organism.

3. Results

The prerequisites for creating a program for using dance exercises at the lessons of physical training were: data of the theoretical and methodical analysis of literary sources and documental materials, observation and questionnaire (poll, conversation) of the physical education teachers and pupils about using dance exercises at physical training lessons, own experience.

The purpose of the program we determined the provision of versatile development of fifth form pupils by means of dance exercises at physical training lessons. According to the purpose we defined three tasks of the program, deciding of which provided: 1) to expand the scope of aesthetic influence of motional activity on pupils; 2) to ensure the rational formation of individual reserve of dance motional abilities and skills and achieve health-improving effect; 3) to promote gender education of schoolchildren.

We highlighted three interconnected components in the structure of the program content: aesthetic, motional and gender.

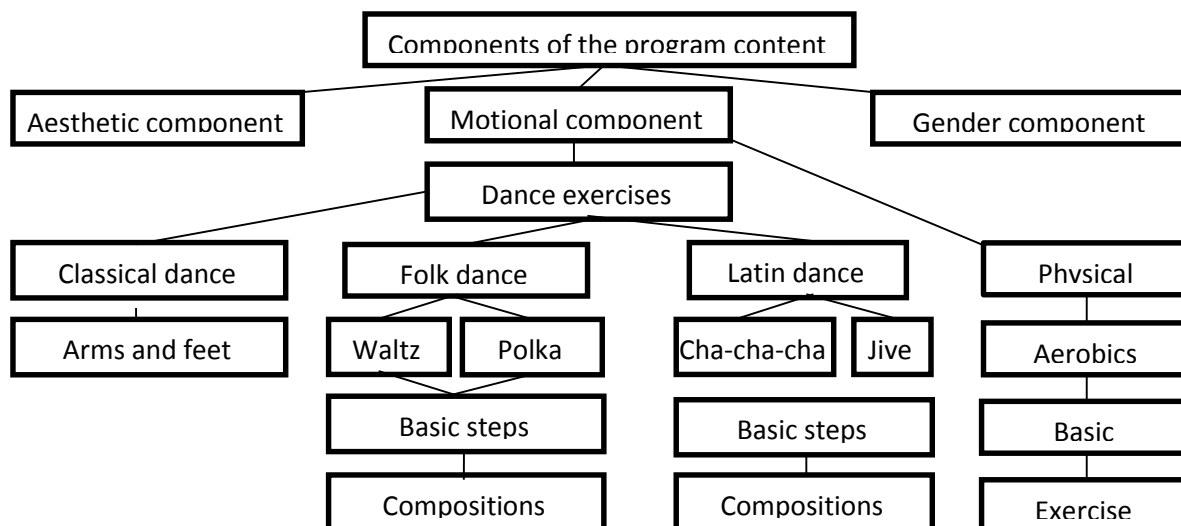


Figure 1. Components of the program content in using dance exercises at physical training lessons.

Aesthetic component provided a disclosure of the dance world to a child, its beauty, training to show his character in his movements, to convey an appropriate mood, to familiarize children with means of musical expression, to transmit in movements its rhythm and dynamics.

Motional component was presented by: classical dance, classical dance (polka, waltz); Latin dance (cha-cha-cha and jive); aerobics.

The basis for mastering all the mentioned dances have become classical dance exercises which were available to children. Beginners have been laid the foundation for further mastering the dances provided by the program. Its essence was in teaching initial positions of feet, arms and head, acquiring the primary coordination skills of elementary exercises at a barre and in the middle of the hall. That is why, during the first year of the experiment, complex trainings were held, which included elements of classical dance and exercises, provided by the study curriculum. That gave to lesson mobility, prevented monotony, and contributed to a better assimilation of the material.

Folk dance is a dance, which is in its natural environment and has certain traditional movements, rhythms, costumes for the given locality. Folk dance is a spontaneous expression of feelings, mood and emotions. We have chosen two folk dances: polka and waltz.

Polka is a famous fast dance that contains jumps, springs, gallops. Our formed program of using dance exercises at physical training lessons for the 5th form pupils provided for the study of the following figures: variable step in pairs with a turn, claps, gallop, variable step with a spring, polka in pair. It was in this sequence that we also danced polka.

Waltz is an extraordinary effective mean of physical education that promotes the ability to move beautifully, forms a posture, beautiful figure, develops grace, and provides for the physical development, and the school waltz is the first dance, which graduates dance at their school-leaving party. In the process of training our program includes the study of such figures: balance, balance with a turn (right and left), waltz track, waltz turn right and waltz in couple. Musical size is 3/4. Studied the waltz at first at a slow tempo and only as a measure of assimilation gradually fasten tempo, attending smoothness and ease of movements. The composition trained in such sequence: for times balance, turn, two times balance, turn, two times balance, waltz track and waltz in couple.

No less popular is *Latin dance* today. From the Latin program we selected two dances: cha-cha-cha and jive.

Cha-cha-cha is a young dance, the appearing of which caused the influence of jazz, swing and Cuban dance music. Rhythm cha-cha-cha is 4/4, but in this dance, the fourth musical part is divided into two parts, in result the rhythm is 2, 3, 4 and 1. The emphasis is on the first musical part. Cha-cha-cha is performed in the rhythm of 120 beats per minute. We studied such basic movements: chassé, main step, new york, hand to hand, stop turn. The composition can be performed in the following sequence as movements are described. But we also changed them, for example: «main step» forth and back, «new york» 3 times, «stop turn», «hand to hand», «stop turn», «main step» forth, «hand to hand», «new york», «stop turn», «main step» forth and back; «chassé» right, left, «new york» 3 times, «stop turn», «main step» forth and back, «hand to hand».

Jive is a dance, which influences on a creation of new dancing variations. Characteristic of jive: movements are rhythmical, fast, swing character presents, lots of throws; mood of performance is humorous, flirting; fun, holiday and active rest. Jive is very fast dance. Musical size is 4/4. Tempo is 44 times per minute. Our program included study of basic jive steps: chassé, rock back and change of positions. These steps can be danced in any order, for example: rock, chassé, rock, chassé; chassé, change of positions, rock, chassé; change of positions, rock, chassé, rock, change of positions.

The main structural unit of *aerobics* was a set of exercises. According to the influence on the systems of pupils' organisms all exercises of aerobics we have divided into three groups. The first one includes exercises, which affect the cardiovascular and respiratory system, the second one includes exercises for muscles and joints, the third one contains exercises, action of which is directed to the nervous system by relaxation methods, suggestion, autotraining.

We used such main basic elements of aerobics: basic hand movements and basic steps (steptouch, openstep, grapewine step, V-step), jumps, kicks, squats, lunges. Using these exercises in different combinations in connection with carrying, turns, various movements of hands provided accessibility, diversity and high emotional background of physical training lessons. In order to diversify in such classes and engage pupils, we used various exercise complexes based on the basic steps. Musical support has also changed, so that pupils could more emotionally perceive such physical exercises.

Realization of *gender* component was ensured by close contact between the partners, trust in each other, equality, friendliness and respect, which takes place in dance classes, and that allows the formation of appropriate moral and ethical qualities and norms between sexual behaviors of children of both genders.

The content of the program realized in stages by means of using dance exercises at physical training classes. At the first stage, pupils acquired theoretical knowledge and practical abilities to perform the basic elements of the dance. In the process of the second stage we brought to the level of perfection the technique of dance exercises, brought up physical qualities and moral, volitional traits of behavior, and at the third stage we developed the ability of children to create new compositions that corresponded to the individual abilities of each pupil.

Main forms of classes were: complex lesson of physical training, individual classes, contests, demonstrations and competitions. Ways of organization studying activity were: frontal, individual, group.

To check the effectiveness of the experimental program, we have conducted a forming experiment,

which was conducted on the basis of Ternopil secondary schools #16 and #19. 103 schoolchildren of the fifth forms of the main medical group, which comprehended experimental and control classes, took part in it. Experimental classes (EC) included 57 pupils (26 boys and 31 girls), control classes (CC) included 54 pupils (28 boys and 26 girls). The experimenter conducted lessons of physical training with the pupils of EC with the priority use of dance exercises. The physical training teacher traditionally conducted lessons with the pupils of CC in accordance with the current curriculum of physical education of schoolchildren.

The criterion for the effectiveness of the experimental program of using dance exercises at physical training classes we have used the method of express assessment of the somatic state of health [13].

Comparing morpho-functional indicators of schoolchildren we have found that between the pupils of EC and CC there were no suitable differences before the experiment ($P>0,05$). Comparison of the results of biological tests (life index, power index, Robinson index and Ruffier index) before the experiment has not revealed any true differences between the pupils of EC and CC ($P>0,05$). Therefore, we can argue that the experimental classes in the experiment according to morpho-functional indicators and the results of biological tests practically did not differ.

After the experiment the indicators of morpho-functional tests showed increasing in EC and CC, the statistical significance of the differences between schoolchildren of EC and CC was observed.

Analysis of the results of biological samples for determining the respiratory possibilities of pupils from EC and CC were compared using the indicator of life index (Table 1). A statically significant difference was found after the experiment among the pupils of EC ($P\leq 0,01$), the girls' life index showed a positive tendency on (15,7%), for boys on (14,3%). The increase in children's CC rates was less significant, for girls it increased by (6,6%), for boys by (7,8%).

Similar results were observed in the process of determining power index (according to indicators of carpal dynamometry) between the pupils of EC and CC after the experiment. The indicators of power index showed significant differences, for boys of EC, the increase in results was (33,3% ($P\leq 0,001$)), for girls (28,6% ($P\leq 0,05$)). For boys of CC, the indicator of power index has improved less significantly, only on (8,2%), for girls on (12,3%).

The study of the effect of experimental program on the functional characteristics of central hemodynamics in a state of rest revealed changes in functional state of the cardiovascular system. The testing, conducted after the experiment showed statistically true differences ($P\leq 0,01$) in indicators of Robinson index between the pupils of CC and EC. After the study of Robinson index indicator in CC the results remained unchanged. The reserve possibilities of the cardiovascular system for girls in EC increased by (19,6%), for boys by (27,9%).

To characterize the level of physical ability of pupils' organisms from EC and CC we have studied the dynamics of Ruffier index changes. After the experiment indicator of physical ability of pupils from the studied classes has been changed. According to the results of defining Ruffier index there was a statistically true difference ($P\leq 0,05$) between the pupils of CC and EC after the experiment. There was improvement for girls in EC on (23,1%), and for boys on (30,8%).

Table 1. Indicators of somatic health of pupils in EC ($\delta=20$; $\text{♀}=17$) and CC ($\delta=32$; $\text{♀}=35$) before and after pedagogical experiment

Biological samples		Life index, ml/kg		Power index, %		Robinson index, c.u.		Ruffier index, c.u.			
Sex		♂	♀	♂	♀	♂	♀	♂	♀		
Stages of research	Before experiment	CC	M_x	44	37	38	35	93	86	14	11
			$\pm m$	1,45	1,27	12,95	11,26	3,01	2,74	0,64	0,55
		EC	M_x	47	42	42	30	95	102	15	14
			$\pm m$	1,47	2	1,68	2,14	6,64	4,55	2,34	1,15
		t		1,60	2,22	1,32	1,82	0,26	2,94	0,39	2,31
		P		>0,05	$\leq 0,05$	>0,05	>0,05	>0,05	$\leq 0,05$	>0,05	$\leq 0,05$

After experiment	CC	M _x	47	40	43	38	94	93	13	11
		± m	9,68	1,74	2,02	2,06	3,66	2,84	0,77	0,59
	EC	M _x	55	45	56	42	78	77	11	9
		± m	2,07	2,17	2,00	2,93	2,81	4,18	0,71	0,68
	t		3,12	2,25	4,35	1,03	3,47	3,25	1,82	1,85
	P		≤0,01	≤0,05	≤0,01	>0,05	≤0,01	≤0,01	>0,05	>0,05

Summarizing the evaluation of indicators of the physical health of the fifth-graders from the experimental classes, we can conclude that after the implementation of the program of using dance exercises at physical training classes, statistically true changes occurred according to indicators of all biological samples between pupils of EC and CC. That suggests that experimental program affects the state of pupils' somatic health with greater success than traditional methods of teaching. Therefore, the proposed program of using dance exercises at lessons of physical training can be used those secondary school which seek to optimize the process of physical education of schoolchildren.

4. Discussion

As result of our research we have got three groups of data: those that confirm the results obtained by other authors; data complementing existing developments; and absolutely new results on studied problem.

To the results that confirm the data of other authors are included the directions of research about positive influence of dance exercises on the development of pupils, their place in physical and spiritual culture of society [14; 15; 16]. We have proved experimentally that dance is an effective mean of physical education, which promotes the ability of beautifully moving, forms a posture, beautiful figure, develops gracefulness, brings joy of communication to music, and assists the formation of somatic health .

To the results that complete the research of other scientists [17; 18; 19], are included the data we received about the volume and content of dance exercises for a lesson of physical training in the fifth form and the sequence of their study; influence of regular trainings with dance exercises on aesthetic, physical and gender education of schoolchildren; influence of music, which activates the motional activity of pupils of the fifth form and has an educational value; use of dance elements from the classical, folk, Latin dance and basic movements of aerobics, is a mean of versatile pupils development.

The new results have got in the research is the development of program of using dance exercises at lessons of physical training, content components and stages of its realization, forms of classes and organization of study activity. We were the first to offer a set and sequence of dance exercises at physical training lessons for the aesthetic, physical and gender development of pupils of the fifth forms.

Three groups of data were obtained as a result of the study, are closely interconnected, logically complement each other and create a clear idea of the harmonious development of pupils in the process of physical education through dance exercises.

5. Conclusions

The non-traditional kinds of motional activity gain popularity in the sphere of physical education for the improvement of schoolchildren's physical development. The effectiveness of dance classes is in the purposeful realization of complex use of means of physical, aesthetic and gender education that harmonizes physical and spiritual qualities of children, provides development of body beauties, gracefulness, elegance of movements, and aesthetic effect of appearance.

As the analysis of physical education curricula showed, the most often they propose elements of classical dance and rhythmical gymnastics. Curricula pay insufficient attention and underestimate the potential of dance exercises in the establishment of national physical education, where the accent should be put on the making foundation of harmonious physical and spiritual development of pupils' personality.

The questionnaire of physical training teachers about using dance exercises as a mean of physical education has found out that only 17,5% systematically and 50,6 % of respondents episodically propose them

to schoolchildren at lessons. In addition, dance exercises are more often used by women teachers. At the same time, 90,4 % of respondents consider it expedient to practice dance exercises at physical training lessons, because they, according to their thoughts: «develop coordination of movements»; «increase emotionality during studies»; «organize a class»; «set a rhythm of a lesson»; «soothe the nervous system»; «stimulate interest for physical culture»; «form and strengthen the posture»; «manifest creative skills of a child»; «bring up beauty, elegance, respect, have a health value».

The questionnaire of pupils has found that: 50,7% of them want that dance exercises would be used at the lessons of physical training; 57,5% of schoolchildren would like to have music played at the physical training lessons; 25,5% of respondents would prefer dance exercises among different types of motional activity, if they had such a choice. The most pupils like collective actions (45,5%) at the lessons of physical culture, and are not satisfied with: strict regulation of their activities (28%), light load (32%) and monotony (20%).

The developed program of using dance exercises at lessons of physical training had a purpose: the provision of versatile development of fifth form pupils by means of dance exercises at physical training lessons. According to the purpose we defined three tasks of the program: 1) to expand the scope of aesthetic influence of motional activity on pupils; 2) to ensure the rational formation of individual reserve of dance motional abilities and skills and achieve health-improving effect; 3) to promote gender education of schoolchildren.

We have identified three interconnected components in the structure of program content: aesthetic, motional and gender. The content of the program realized in stages by means of using dance exercises at physical training classes. At the first stage, pupils were acquired theoretical knowledge and practical abilities to perform the basic elements of the dance. In the process of the second stage we brought to the level of perfection the technique of dance exercises, brought up physical qualities and moral, volitional traits of behavior, and at the third stage we developed the ability of children to create new compositions that corresponded to the individual abilities of each pupil. Into the basis of the motional component is laid: classical dance, folk dance (polka, waltz); Latin dance (cha-cha-cha and jive); aerobics. Main forms of classes were: complex lesson of physical training, individual classes, contests, demonstrations and competitions. Ways of organization studying activity were: frontal, individual, group.

The criterion of effectiveness of the program was used express evaluation of somatic health by Apanasenko [13]. At the time of formal experiment statistically true better results ($P \leq 0,05$) showed the pupils of EC in biological samples. Therefore, the life index for boys of EC grew by 6,5% more than for boys of CC, and for girls by 9,1%; the power index for boys by 25,1%, for girls by 16,3%; the Robinson index for boys grew up on 20,1%, for girls on 18,5% and the Ruffier index for boys on 14,3%, for girls on 23,4% than for pupils of CC.

Summing up the results of the indicators of somatic health of pupils of the fifth form, we can conclude that after implementation of the program of using dance exercises at physical training lesson, statistically true changes occurred according to the indices of all biological samples between pupils of EC and CC. This suggests that the experimental program influences the state of somatic health of schoolchildren more effectively than traditional teaching methods. Thus, the proposed program of using dance exercises at physical training lessons can be used by secondary schools, which seek to optimize the process of physical education and diverse development of schoolchildren.

Our research does not solve all aspects of that problem. There remains an unclear question about the content of using dance exercises in the process of physical education of high school pupils, the impact of dance exercises on the motivational and moral sphere of pupils that may be the subject of further scientific research.

Conflict of Interests

The authors declare that there is no conflict of interest.

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