

# THE INFLUENCE OF THE "RHYTHMIC GYMNASTICS FOR PRESCHOOLERS" PROGRAM ON THE CULTURE OF MOVEMENT IN 5-6-YEAR-OLD CHILDREN

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## **Abstract**

*Existing educational programs for preschool children do not consider the movement culture as a component in the development of child's general culture. In physical culture and health-improving classes in preschool educational institutions, much attention is paid to quantitative indicators that characterize motor qualities. Teachers pay less attention to the technique and beauty of the movement performance. The purpose of the study is to experimentally confirm the effectiveness of the "Rhythmic gymnastics for preschool children" program on the movement culture of children aged 5-6 years. An analysis and generalization of scientific and methodological literature, pedagogical observation and experiment, testing, methods of mathematical statistics. The study involved 80 children who were divided into 2 groups, experimental and control group, 40 children in each. The effectiveness of "Rhythmic gymnastics for preschoolers" was determined on the basis of different results in each component before and after the experiment in each group. The children in the control group improved their results. However, this increase is not reliable ( $p > 0.05$ ). The physical component improved for all children in the experimental group, but not in all tests for each child. We discovered that authors do not share their views on the concept of "movement culture". The "Rhythmic gymnastics for preschoolers" program is an effective tool to develop preschoolers' movement culture.*

**Keywords:** *Physical fitness, Movement culture, Motor preparedness, Aesthetic abilities.*

## **INTRODUCTION**

In modern scientific research (Yeremushkin, 2016; Nasonova, 2016), the phenomenon of movement culture is increasingly acquiring a general pedagogical character (Honchar et al., 2019). The culture of movement is a motor-executive component of culture that includes the culture of movement in general as well as its theory, practice and analysis, and pedagogical, aesthetic and social aspects of motor activity

(Malyshkin, 2012; Sidorova, 2002). Korenberg (2008) mentions that the culture of movement is a system body movements, and in order to develop one's movements to a high level, one needs general and targeted coordination and a certain "movement taste", i.e., understanding the beauty and grace of body movements.

The existing educational programs for preschool children do not separate the culture of movements as a component of

general culture. In physical culture and health-improving classes at preschool educational institutions (PEI), much attention is paid to quantitative indicators, repetitions, timing, meters, kilograms, and other metrics that characterize motor qualities (Moskalenko et al., 2020). The technique and beauty of performing movements is paid attention by teachers to a lesser extent.

Some researchers (Khudolii et al., 2015), and our previous studies have shown (Honchar & Borysova, 2019) that 23.7% of children cannot walk correctly. When performing the "walking" test, it was observed that children did not maintain the correct posture or did not perform active leg flexion in the knee joint and free arm flexion.

Only 12.5% of children met one or two criteria out of four when performing a 10m run. 27.3 % children did not meet any of the criteria. Children had issues with vigorous lifting of the legs, and there was no rhythmic and straight running. A similar situation was observed in the "Standing long jump" tests. This situation is primarily the result of insufficient development of coordination abilities. In the future, it will have a negative impact on the quantitative indicators when testing walking, running, and standing long jump.

We believe that the introduction of rhythmic gymnastics is one solution to this problem.

Researchers have proven that rhythmic gymnastics is effective for the development of coordination abilities, especially in preschoolers (Karpenko et al., 2003; Gantcheva et al., 2021; Kiuchukov et al., 2019); it also helps children learn new movements and master a variety of complex exercises with objects (Khudolii and Yermakov, 2011). It contributes to the development of fine visual motor skills, the ability to maintain static and motion balance, vestibular stability and orientation in space. Performing exercises, modevelopment of expressiveness and rhythm in children (Viener-Usmanova et al., 2014).

**The purpose of the study** is to experimentally confirm the effectiveness of the "Rhythmic gymnastics for preschoolers" program to develop movement culture in children aged 5-6 years.

## METHODS

The study involved 80 children who were divided into 2 groups of 40 children in each (Table 1).

Table 1  
*The division of children by age.*

	Number of children (n=80)							
	Group 1 (n=40)				Group 2 (n=40)			
	5year-old	%	6-year-old	%	5-year-old	%	6year-old	%
Girls	16	40,0	6	15,0	13	32,5	11	27,5
Boys	14	35,0	4	10,0	11	27,5	5	12,5
Total	30	75,0	10	25,0	24	60,0	16	40,0

Anthropometric indicators (body length, body weight, chest and head circumference) in most children showed average values. The division of the children into groups was carried out by taking into account their age and sex, and the peculiarities of preschool institutions.

The research was carried out in two educational institutions for preschool education in Dnieper City. Children in Group 1 of kindergarten № 123 'Fairy' (40 children: 22 girls and 18 boys) followed the program 'I am in the world' recommended by the Ministry of

Education and Science of Ukraine (Kononko et al., 2019), and the optional component consisted of exercises for building the correct posture and preventing flat feet. Children in Group 2, kindergarten № 355 'Dream' (40 children: 24 girls and 16 boys) followed the program 'I am in the world' and during the optional component performed exercises and tasks developed by us, i.e., they followed the "Rhythmic gymnastics for preschool children" program.

Analysis and generalization of scientific and methodological literature and Internet resources to determine the goals and objectives of physical education for preschoolers, effective means, and methods that shape the culture of movement, especially in preschoolers, that are used in Ukraine, and in physical education around the world.

#### Pedagogical testing

At the beginning and end of the study, testing was carried out to determine the initial and final situation in the culture of movement for children aged 5-6 years. We determined this by means of physical, motor and aesthetic components.

Assessment of the physical component (physical fitness) of 5-6-year-old children was carried out using tests that are recommended by experts in preschool education (Vilchkovsky, and Denisenko, 2011), include all motor qualities, and are used as an assessment tool for its effectiveness in preschoolers' physical education.

1. Speed. A) "Hand movements within 5 sec." Movements with the right and left hand were performed at the table in a group. The children were offered a piece of paper with a line separating it in two sections, and a pencil. At the command "Start", children drew dots on the paper in a free order with maximum speed. On the command "Stop", the movement ended. The number of points was counted. B) "Jumping in place within 5 sec"- the child stands in the starting position in the center of a hoop, hands on

the belt. About 5-8cm above the child's head, the researcher holds a sheet of paper. On "Start", the child starts jumping to touch the sheet of paper with the top of his head; on "Stop", he stops. The number of head touches are recorded after three attempts.

2. Agility ("Jumping with turns" to the right and left) - the child stands in the starting position, hands on a thick paper attached to the floor with degree markings. The child performs three jumps, first with a turn to the right, and then to the left.

3. Flexibility. "Torso tilt".

4. Strength. "Dynamometry" with the right and left arms – the test is performed using a child dynamometer, which is put in the child's hand, with the arrow towards the palm. The child takes his hand to the side and presses on the dynamometer. The best result out of three attempts of the right and left hands is recorded. During the test, the hand with the dynamometer should not be touching anything.

5. Endurance. "Hanging on the bar".

The results obtained were compared with standard indicators. For their performance, children could get between 5 and 2 points, where 5 points corresponds to a high level of physical fitness, 3 points to an intermediate level, and 2 points to a low fitness level.

Motor preparedness - this is a process of purposely developing physical qualities that a person needs to learn various physical exercises, and the ability to apply them in everyday life.

Assessment of the motor component in preschoolers was carried out by an expert by means of the same tests set (Vilchkovsky, and Denisenko, 2011):

1. "10m walking" (sec) – Each child walks at an average pace twice, the best result is recorded. The timing starts from the moment the child starts walking and ends when crossing the finish line. The criteria for the quality of walking performance: correct posture; free movements with arms bent at the elbows; energetic and rhythmic steps with rolling

from heel to toe; active flexion and extension of the knees and joints; ability to hold different directions while walking and change them.

2. "10m running" (sec). On the teacher's command, the child runs at maximum speed. The researcher records the time the child covered the distance of 10 meters. The test is performed twice with a rest interval of 4-6 minutes. The best result is recorded. The criteria for the quality of running performance: slight tilt of the body while keeping the head straight; free back and forward movements with arms bent at the elbows; vigorous raising of the swinging leg hip; careful slowing down and swinging legs; movements should be rhythmic and light.

3. "Standing long jump" (cm). Children performed standing long jump 3 times. The best result was recorded. The criteria for the quality of the jump performance: correct starting position; pushing off with two legs followed by their straightening, and vigorous swing of the arms forward and upward; during the flight, the legs are bent and energetically extended forward; stable landing on two bent legs with a transition from the heel to the whole foot; arms forward to the sides.

We assessed quantitative and qualitative indicators of these exercises (5, 3, or 2 points). The final assessment of the motor component score was the mean of the scores after the three tests. If a child received an assessment in the range from 4 to 5 points - his physical fitness was good, from 3 to 4 points - satisfactory, less than 3 points - insufficient (unsatisfactory).

Assessment of the aesthetic component (aesthetic abilities) of the movement culture was carried out according to the Viner-Usmanova method (Viener-Usmanova et al., 2014). To perform this test, the children were divided

into two groups, girls and boys. Children were offered classical music and children's rhythmic songs to modern and foreign music.

Children themselves chose and performed movements, which in their opinion were vivid, expressive and emotionally expressed the music. The time to complete the test was one minute. The assessment criteria were the following indicators: motor expressiveness, emotional expressiveness, and imagery. The assessment was carried out using a point scale.

The pedagogical experiment focused on the implementation of a program designed to develop movement culture in children aged 5-6 years called "Rhythmic gymnastics for preschoolers" (Copyright Certificate No. 99827 dated September 22, 2020) and on assessment of its effectiveness. The developed program is designed to cover a 9-month period. Due to the quarantine restrictions, the experiment lasted 6.5 months (from September 2019 till March 12, 2020).

The program provides an introduction to rhythmic gymnastics by using various forms of PEI work and helps develop all components of the movement culture. The program consists of exercises without apparatus (jumping, balances, turns, waves) and with apparatus (rope, hoop, ball); drill and general developmental exercises; general physical fitness exercises; dance, musical and movement exercises, and their connections. The program includes a tutorial and other didactic and musical material.

The study used the calculation of the mean data, the average statistical deviations, the student criterion. The calculation of growth was performed by the Brody index with assessment of reliability of the increase.

$$IB = \frac{100(V_2 - V_1)}{0,5(V_1 + V_2)} \% \quad (1)$$

Where  $V_1$  is the start result, and  $V_2$  is the final result.

Table 1

*The scale for assessing the aesthetic component of the culture of movement in children aged 5-6 years.*

No	Criteria	Assessment
Motor expressiveness		
1.	Transferring the image in most of the exercise	3
2.	Episodic transmission of the image during the exercise	2
3.	Stiffness of body movements when projecting an image arising from the character of the piece of music	1
Emotional expressiveness		
1.	Facial expressions partially do not coincide with the nature of the music	3
2.	Unnatural facial expression in certain parts of the exercise, disfiguring the artistic image	2
3.	Mimicry does not correspond to the given musical accompaniment	1
Imagery		
1.	Stiffness of some movements	3
2.	Stiffness of movements in certain parts of the composition	2
3.	Movement partially or completely does not coincide with the character of music.	1

## RESULTS

The culture of movement is an integrated indicator with different components. The model of preschoolers' movement culture, developed by us, consists of the results of testing the physical and motor preparedness and aesthetic abilities in children. The contribution of each of the components to the overall model depends on the score in a particular test.

At the beginning of the experiment, we determined that children in Group 1 were significantly better ( $p < 0.05$ ) than children in Group 2 in all components of the movement culture. This is due to the different approach to conducting classes in different preschool institutions. In kindergarten № 355 "Dream", physical education classes were conducted by a group of teachers, and in kindergarten № 123 "Fairy" by a physical education instructor.

After the experiment, we compared the model of the movement culture with the obtained results for each component of

the movement culture. Looking at Figure 1, one can see that children in Group 1 improved their results ( $p > 0.05$ ) but not considerably.

Additional exercises aiming to correct posture and flat feet were effective, but not sufficiently to develop the culture of movement in preschoolers. In Group 1, the indices of motor preparedness improved (by 5.65%,  $p < 0.05$ ) only in 35% of children. The aesthetic component improved in 17.5% of the children (5.00,  $p < 0.05$ ). The greatest increase in the indices of the physical component was observed in the tests "Hand movements" with the right hand (10.32,  $p < 0.05$ ).

In Group 2, 60% of children improved their performance in the motor component tests. Evaluating the results obtained, it was observed that children who improved quantitative indicators in jumping tests at the same time increased their marks for the technique of performing jumping in place. A similar trend was observed when performing dynamometry and the "hanging on the bar" test.

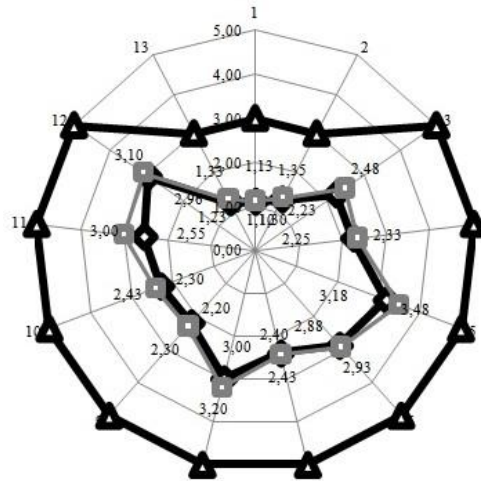


Figure 1. Distribution of 5-6-yearold children in Group 1 by the level of culture of movement before and after the experiment.

Note: 1 - Emotional expressiveness; 2 - Imagery; 3 - Movement with the right hand; 4 - Movements with the left hand; 5 - Jumping in place; 6 - Jumping with the right rotation; 7 - Jumping with the left rotation; 8 - Torso tilt; 9 - Dynamometry, right; 10 - Dynamometry, left; 11 - Hanging on the bar; 12 - Motor preparedness, 13 - Motor expressiveness.

○ before the experiment    □ after the experiment    ▲ the model of movement culture

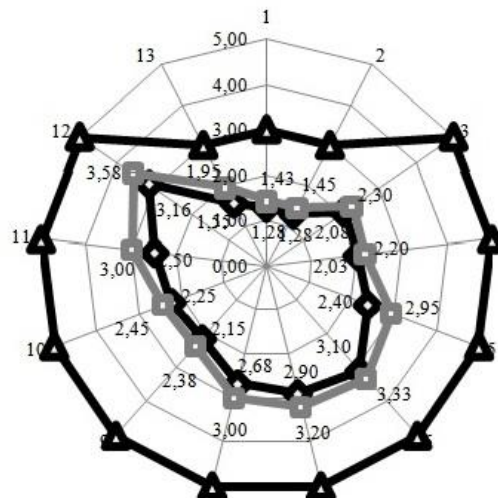


Figure 2. Distribution of 5-6-yearold children in Group 2 according to the level of culture of movement before and after the experiment

Note: 1 - Emotional expressiveness; 2 - Imagery; 3 - Movement with the right hand; 4 - Movements with the left hand; 5 - Jumping in place; 6 - Jumping with the right rotation; 7 - Jumping with the left rotation; 8 - Torso tilt; 9 - Dynamometry, right; 10 - Dynamometry, left; 11 - Hanging on the bar; 12 - Motor preparedness, 13 - Motor expressiveness.

○ before the experiment    □ after the experiment    ▲ the model of movement culture

Table 2

*Indicators of the movement culture components in Group 1 ( $\bar{x} \pm S$ ).*

Test		Before the experiment	p	After the experiment	Increase %
<b>Boys</b>					
Physical component					
Hand movement within 5s., times	Right.	16.72±5.33	= .53	17.78±4.62	7.93
	Left.	16.83±5.09	= .60	17.67±4.35	6.66
Jumping within 5s., times		12.22±4.44	= .18	14.06±3.47	16.54
Jumping with rotation, degrees	Right.	165.00±48.81	= .32	178.89±31.27	11.25
	Left.	146.67±42.29	= .40	157.50±34.22	8,70
Torso tilt, cm.		6,28±3,79	= .79	6.61±3.57	8.55
Dynamometry, kg.	Right.	5.86±1.82	= .56	6.22±1.89	6.23
	Left.	6.06±1.75	= .81	6.19±1.69	2.60
Hanging on the bar, s.		20,67±5,05	= .06	24.17±5.71	15.70
Motor component					
10m walking, s.		7.11±0.88	= .59	6.97±0.63	1.69
10m running, s.		3.97±0.88	= .62	3.83±0.79	3.28
Standing long jump, cm.		71.28±15.85	= .75	72.94±15.49	2.43
Aesthetic component		3.56±0.78	= .52	3.72±0.75	4.78
<b>Girls</b>					
Physical component					
Hand movement within 5s., times	Right.	16.05±6.14	= .28	18.05±6.04	12,29
	Left.	15.27±4.56	= .22	17.00±4.63	10,84
Jumping within 5s., times		13,55±3,65	= .74	13.91±3.50	2.99
Jumping with rotation, degrees	Right	166.36±43.57	=1.00	166.36±43.57	0,00
	Left.	134.09±38.41	=1.00	134.09±38.41	0,00
Torso tilt, cm.		6,59±4,11	= .59	7.23±3.65	18.80
Dynamometry, kg.	Right.	5.48±1.76	= .80	5.61±1.79	2,31
	Left.	5.39±1.53	= .72	5.55±1.43	3,50
Hanging on the bar, s.		22,36±13,58	= .39	25.77±12.63	17.50
Motor component					
10m walking, s.		7.46±1.53	= .37	7.14±0.65	3.27
10 m running, s.		4.03±0.89	= .71	3.93±0.88	2.49
Standing long jump, cm.		69.27±15.16	= .79	70.50±14.57	1.97
Aesthetic component		3.68±0.84	= .46	3.86±0.77	5.19

Table 3

*Indicators of the movement culture components of children in Group 2 ( $\bar{x} \pm S$ ).*

Test		Before the experiment	p	After the experiment	Increase %
<b>Boys</b>					
<b>Physical component</b>					
Hand movement within 5s., times	Right.	10.38±3.36	= .03	14.38±6.23	26,26
	Left.	9.85±1.68	= .04	13.85±5.63	21,54
Jumping within 5s., times		11,08±2,02	=.09	12.62±2.63	11.45
Jumping with rotation, degrees	Right.	214.62±64.05	= .34	226.92±41.21	15,68
	Left.	166.15±69.68	= .12	200.00±36.80	24,95
Torso tilt, cm.		4,23±1,79	= .22	5.00±1.41	26.68
Dynamometry, kg.	Right.	4.65±1.36	= .21	5.30±1.77	18,83
	Left.	5.27±1.86	= .51	5.48±2.05	6,72
Hanging on the bar, s.		17,92±8,99	= .22	23.15±10.57	20.20
<b>Motor component</b>					
10m walking, s.		7.26±1.36	= .43	6.99±1.30	4.68
10m running, s.		3.53±0.46	= .05	3.23±0.37	8.19
Standing long jump, cm.		76.00±10.27	= .38	79.31±9.72	4.42
Aesthetic component		4.13±1.36	= .12	4.94±1.48	18.67
<b>Girls</b>					
<b>Physical component</b>					
Hand movement within 5s., times	Right.	11.25±3.33	= .27	12.63±5.01	8,72
	Left.	11.04±2.39	= .11	12.88±4.93	10,96
Jumping within 5s., times		10,13±2,54	= .01	12.21±2.81	12.28
Jumping with rotation, degrees	Right	142.50±50.82	= .12	163.13±39.39	16,11
	Left.	159.38±67.64	= .42	174.38±59.81	11,90
Torso tilt, cm.		5,33±3,19	= .52	5.92±3.05	14.33
Dynamometry, kg.	Right.	5.31±1.52	= .45	5.65±1.49	6,68
	Left.	4.73±1.44	= .36	5.10±1.38	8,58
Hanging on the bar, s.		21,38±13,53	= .38	24.71±12.72	17.86
<b>Motor component</b>					
10m walking, s.		6.90±0.73	= .58	6.79±0.71	1.68
10m running, s.		3.49±0.42	= .35	3.39±0.35	2.89
Standing long jump, cm.		74.26±13.26	= .63	75.92±12.01	2.76
Aesthetic component		4.08±1.41	= .14	4.75±1.62	14.73

Children in Group 2 learned to control their emotions and concentrate on performing activities. This can be seen in the results of "hand movement", "dynamometry", "pivot jump" tests, and all tests of the aesthetic component. 20% of children in the experimental group did these tests at a high level. Before the test, it was noticeable how children started thinking, calmed down and clearly performed each motor activity as instructed by the teacher. In Group 1, only 2.5% of the children managed to complete

tasks with such focus. The physical component of the movement culture improved in all children in Group 2, but not in all tests and in each child. The greatest increase was observed in the tests: "hand movements" with the right hand (15.44%,  $p < 0.05$ ), "jumping in place" (15.55%,  $p < 0.05$ ), "jumping with a turn" to the right (15.94%,  $p < 0.05$ ) and to the left (17.12%,  $p < 0.05$ ), "torso tilt" (19.27%,  $p < 0.05$ ) and "hanging on the bar" (18.80%,  $p < 0.05$ ).



Thus, the implementation of the "Rhythmic gymnastics for preschoolers" program is an effective means for the development of movement culture in preschoolers and can be recommended for the implementation in preschool educational establishments.

## DISCUSSION

The word "culture" is derived from the Latin word: culture, which means cultivation, upbringing, education, development, reverence. It is at the preschool age that we have the opportunity to begin developing the top level of movement culture. The problem of assessing the culture of movement in preschoolers has not been fully studied yet and is in its infancy. In their works, researchers Nasonova (2016), Sidovova (2002), Yeromushkina (2016), Vilevsky (1994) describe the concept of culture of movement and give possible evaluation criteria. In our study, we made an attempt to assess changes in the culture of movement in preschoolers by comparing results from two groups.

In our research study, we have introduced elements of rhythmic gymnastics in the process of physical education in preschool to develop the basis of the movement culture in children. In 6.5 months, children in the experimental group improved their indicators in all components of the culture of movements, and in the aesthetic component, and, according to the criteria, they were ahead of the children in Group 1 in motor expressiveness, emotional expressiveness and imagery ( $p = 0,001$ ). In scientific and methodological literature we did not find any comprehensive information on the quantitative assessment of movement culture in preschoolers. Therefore, we can only compare the results of our study with the results of other authors for individual components. Thus, the experimental data obtained by us is a continuation of research on the level of physical and motor

readiness in 5-6-year-old children. These results are consistent with the results of Maslyak, Shepel & Veretelnikova (2017), Kuzmenko & Chernysh (2018), Kasian (2017) who determined that the motor preparedness of older preschool children is at an average level. The researchers found that physical fitness results for boys are better than for girls ( $p < 0.05-0.01$ ). In our study, a significant difference between boys and girls in Groups 1 and 2 was observed in the "hand movement" with the right or left hand, "jumping in place" and "torso tilt" tests ( $p < 0.05$ ). Testing of the technical and aesthetic components of movement culture in preschoolers has not become widespread. In scientific works on rhythmic gymnastics training, only 7-year-old children and older are assessed for these components.

According to Kiuchukov, Yanev, Petrov, Kolimechkov, Alexandrova, Zaykova & Stoimenov (2019), rhythmic gymnastics improves all health-related components of physical fitness and has a positive effect on children's physical development.

Heinz Krombholz (2006) studied 568 children aged 37–78 months, testing them for physical development, physical skills and cognitive abilities. He found that at the start of the study, highly motor active children did better in coordination, fitness, and manual agility than average or less active children in each trial. They also did better than children with lower motor skills in concentration in each trial, and in intelligence at the end of the study. The children who lagged behind had higher body mass in each trial, and their health status was less favorable; however, the groups did not differ in body length. In our study, no such relationship was observed. It is possible that this is due to the fact that almost all of the children investigated had average or below average body mass.

The democratization of the preschool education system gave teachers the freedom to take creative initiative in

selecting programs for the physical education of preschoolers.

Cristine L. Williams, L. Kibbe, & Davide Dennison (2009) implemented Animal Trackers program in preschool institutions to increase structured physical activity (PA) during the preschool day; increase the practice of gross motor skills, and provide teachers with an easy-to-use program of physical activity regardless of their experience. After the introduction of this program, structured time of physical activity in preschool institutions has increased. According to preschool teachers, the program is suitable for children as it interests and pleases them. Studies have also shown that even a small increase in physical activity can help keep children's body mass on normal levels.

In the course of our study, we evaluated the effectiveness of well-known and positively proven tools, such as various types of gymnastics, based on theoretical and methodological provisions of kinesiological potential in human ontogenesis. The integration of selected elements of sports training into physical education has a rather deep methodological meaning. There has been a body of evidence that proves the effectiveness of rhythmic gymnastics in the development of physical and mental abilities in children and the development of culture of movements. It is also confirmed by the results of our study. The existing potential of rhythmic gymnastics and its effectiveness in the development of physical and mental abilities of children has been proven in a number of studies (Medvedeva E.N., Terekhina R.N.). However, its use in preschool physical education is still very limited.

Thus, the "Rhythmic gymnastics for preschoolers" program which includes a purpose, objectives, methods, principles, tools (exercises for general development, turns, balances, tilts, jumping, acrobatic exercises, dance movements performed without apparatus, with a skipping rope, a hoop, a ball and didactic material); musical

accompaniment; class planning, a tutorial and methods of assessment, facilitates an increase in the efficiency of physical education for 5-6 year-old children and has a positive impact on all indicators of physical and motor fitness and aesthetic development of preschoolers. The program is an effective tool that helps develop preschoolers' movement culture and can be recommended for the use in preschool education institutions.

## CONCLUSIONS

Our analysis of scientific and methodological literature showed that authors do not have a common view on the concept of "culture of movement" and its assessment. Their ideas are very diverse and have only philosophical conclusions. For this reason, we believe that our developed assessment model is a beginning of a new and promising direction in the theory and practice of physical education.

The introduction "Rhythmic gymnastics for preschoolers" in preschool educational institutions, aimed at developing the culture of movement in older preschool children, has a positive impact on each of its components. Our assessment of the physical component showed that in Group 2 the increase was greater in all parameters than in Group 1. A significant difference was observed in "jumping with a turn" to the right and to the left ( $p < 0.05$ ) test. Rhythmic gymnastics positively influenced the level of development in motor preparedness of 60% of children in Group 2, and only 35% of children in Group 1.

After the experiment, indicators of the aesthetic component were significantly ( $p < 0.05$ ) better in children of the experimental group (an increase of 16.31%) than in the control group (an increase of 5.00%,  $p < 0.05$ ).

Thus, the introduction of the Rhythmic Gymnastics for Preschool Children program as a component of the

main program has a positive effect on the level of technical and physical preparedness of preschoolers; it helps diversify physical education in preschool institutions, and helps develop the culture of movement in 5-6-year-old children.

## REFERENCES

- Gantcheva, G., Borysova, Y., & Kovalenko, N. (2021). Abilities of 7-8-year-old rhythmic gymnasts evaluation and development of rhythmic gymnastics. *Science of Gymnastics Journal*. 13 Issue 1: 59 - 69.
- Honchar, L. V., & Borysova Y. Y. (2019). Analysis of indicators of physical and motor fitness of older preschool children. *Sports Bulletin of the Dnieper*, 3, 87-94.
- Honchar, L. V., & Borysova, Y. Y. (2019). Analysis of indicators of physical development of older preschool children. *Slobozhansky scientific and sports bulletin*, 2, 50-54. <https://doi.org/10.5281/zenodo.3044999>
- Karpenko, L. A., Viner, I. A., Terekhina, R. N., Ovchinnikova, N. A., Stepanova, I. A., Naklonov, Y. I., Naypak, V. D., Bistrov, I. V., Sivitskiy, V. A., Rumba, O. G., & Kudashov, V. F. (2003). Rhythmic gymnastics: Tutorial. Moscow, 382.
- Kasyan, A. V. (2017). Investigation of the level of physical development of physical qualities of senior preschool age. *Scientific journal NPU after M.P. Dragomanova*, 3K (84), 206-210.
- Khudolii, O. M., Iermakov, S. S., & Prusik, K. (2015). Classification of motor fitness of 7-9 years old boys *Journal of Physical Education and Sport*, 15(2), 245 - 253.
- Khudolii, O. M., & Yermakov, S. S. (2011). Regularities of the process of physical education. *Theory and method of physical education*. Issue 5, 2011, pp. 3-18, 35-41.
- Kiuchukov I., Yanev I., Petrov L., Kolimechkov S., Alexandrova A., Zaykova D., Stoimenov E. (2019). Impact of gymnastics training on the health related Physical fitness of young female and male artistic gymnasts. *Science of Gymnastics Journal*. 11 Issue 2: 175 – 187.
- Kononko, O. L., Aksionova, O. P., Anishchuk, A. M., & Artemova, L. V. (2019). Program of the development of preschool children "I am in the world" (new edition). Kyiv: TOV "MTsFER - Ukraine", 488.
- Korenberg, V. B. (2008). On some basic concepts in our sphere. *Theory and practice of physical education*, Vol. 2, 10.
- Krombholz, H. (2006). Physical Performance in Relation to Age, Sex, Birth Order, Social Class, and Sports Activities of Preschool Children. 102(2), 477-484. [doi.org/10.2466/pms.102.2.477-484](https://doi.org/10.2466/pms.102.2.477-484).
- Kuzmenko, I., & Chernish, T. (2018). The level of development of motor qualities of children of senior preschool age. *Slobozhanskiy scientific and sport visnik*, 57-60.
- Malishkin, A. M. (2012). Culture of body, culture of movement, culture of schoolchildren's health and means of their assessment. *Society Science. Culture: materials of scientific and practical Internet conferences*. URL: <http://intkonf.org/malishkin-am-kultura-tila-kultura-ruhu-kultura-zdorovya-uchniv-i-sposobi-yih-otsinyuvannya/>
- Masliak, I. P., Shepel, A. P., & Veretelnikova, Y. A. (2017). Assessment of motor preparedness of senior preschool children: III-d Ukrainian scientific and practical conference, 111–123.
- Moskalenko, N., Savchenko, V., Polyakova, A., Mikitchik, O., Mitova, O., Griukova, V., Mytsak A. (2020) Physical condition of pupils of pre-school educational establishments of different types. *Pedagogy of Physical Culture and Sports*. #24(2). C. 77-84.
- Nasonova, Y. A. (2016). The structure of the movements culture of early preschool age children. *Physical fitness, sport and culture of health in the modern world*, 3, 47–52.

Sidorova, V. V. (2002). The content of movements culture as a motor-aesthetic concept. *Physical education of students of creative specializations*, 85-91.

Vilchkovsky, E. S., & Denisenko, N. F. (2011). Organization of the motor regime of children in preschool educational institutions: a textbook. Ternopil: Mandrivets, 128.

Vilevsky, M. Y. (1994). Socio-pedagogical determinants of the formation of a healthy lifestyle. *Theory and practice of physical culture*, 9, 9-11.

Viner-Usmanova, I. A., Kryuchek, E. S., Medvedeva, E. N., & Terekhina, R. N. (2014). Theory and methods of rhythmic gymnastics. Artistry and ways of its formation. Moscow: "Man", 120. (Coach Library).

Williams, C. L., Carter, B. J., Kibbe, D. L., & Dennison D. (2009). Increasing physical activity in preschool: a pilot study to evaluate animal trackers. *Journal of Education and Behavior. Advancing Research, Practice & Policy*. 41(1), 47-52. doi: 10.1016/j.jneb.2008.03.004.

Yeremushkin, M. A. (2016). Physical activity and health: from remedial gymnastics to parkour. Moscow: Sport, 184.

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