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EFFECTIVENESS OF USING THE "KIDS ATHLETICS" CHILDREN'S ATHLETICS PROGRAM IN PHYSICAL EDUCATION LESSONS

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ABOUT ARTICLE

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Abstract: The article discusses the implementation of the tasks specified in the Program of the Republic of Uzbekistan for the Development of School Sports, with a personal component for the development of talent analysis of junior schoolchildren, anthropometric data, which are indicators of health, as well as specific features in the process of change, harmonious processes, changes, etc.

Introduction. In world athletics, the "Kids athletics" program is very effective in the field of physical education, significantly developing children's motivation to improve their physical fitness (speed, strength, endurance, agility), which, in turn, makes athletics attractive through various games, improves self-esteem motivation, forms a positive attitude towards physical activity, and strengthens physical skills and interest in sports in an unconventional way [1].

Children's athletics is a modern, advanced training and competition system for children of primary and secondary school age, which includes game-based approaches, organization in any conditions (gym, street, etc.), team-based training and competitions, convenient equipment that can be prepared independently, a simple and understandable system for tracking results and determining winners [2].

The experience of applying the developed recommendations can put a high demand for athletics on children in physical education classes of general education schools and in extracurricular activities (school agenda, competition processes, health hours).

This program is taught as a compulsory subject for primary school students in over 50 leading athletics countries. The lessons are structured into preparatory, main and final parts and include running events, standing long jumps, tennis ball throws and familiarization with Olympic traditions [3].

Its game-based approach, in particular, not only develops broader life skills, but also prepares children for a lifelong commitment to sports and a healthy lifestyle. As such, the program is an effective teaching tool, offering teachers flexible activities and resources to introduce key athletics concepts in an engaging and understandable way [4].

Implementing a children's athletics program is a practical and effective strategy for increasing physical activity in children, improving physical fitness, and establishing long-term positive relationships with athletics and sports [5].

The goal of the program is to popularize athletics, increase children's interest and teach proper movement through game-based activities.

Therefore, students experience joy and satisfaction from constantly expanding their experience and mastering new and diverse types of physical exercises, which further contributes to the motivation component in sports.

The choice of handball as a training tool is based on the initial empirical testing of its acceptance by 7-8-year-old children and the inclusion of athletic exercises (throwing, running, etc.) similar to athletics in the game. This game has shown an effect on the development of coordination and speed skills, which is useful for 7-8-year-old children.

The purpose of the study. The aim of the project is to develop and empirically validate the effectiveness of training methodologies in physical education classes for 7-8 year old students based on the IAAF Kids Athletics program.

Research methods: To achieve the research goal, we used the following methods:

1) analysis and brief description of scientific and methodological literature;

2) comprehensive assessment of physical health using the method of S.V. Khrushchev, including the determination of five indices - the Quetelet index, the Robinson index, the Skibinsky index, the Shapovalova index and the Ruffier index. The sum of the quantitative scores of each index is a comprehensive assessment of the physical health of the subjects [2];

3) the method of control tests to assess coordination abilities (the difference between the results of running 3x10 m and running 30 m); increasing the results of the standing long

jump with the help of hand shaking; five rapid repetitions of the exercise (squat, push-up, push-up lying down, etc.); repetition of time intervals of 2 and 3 seconds; measuring the accuracy of hand force application on the dynamometer equal to 50% of the maximum result; standing long jump for a distance equal to 50% of the maximum result; Accuracy of hitting a medicine ball at the 4-meter mark [4].

4) pedagogical experience and mathematical-statistical analysis.

Methodology. The experimental work was conducted during physical education classes in secondary schools No. 15 in Gulistan city, Syrdarya region, No. 18 in Kattakurgan district, Samarkand region, No. 4 in Yangiarik district, Khorezm region, No. 14 in Markhamat district, Andijan region, No. 40 in Kuva district, Fergana region, No. 18 in Pskent district, Tashkent region, No. 1 in Zamin district, Jizzakh region, No. 6 in Navoi city, Navoi region, No. 49 in Gijduvan district, Bukhara region, No. 5 in Chartok district, Namangan region, No. 64 in Chirakchi district, Kashkadarya region, No. 2 in Termez district, Surkhandarya region, No. 27 in Mirzo Ulugbek district, Tashkent city, and No. 14 in Nukus city, Karakalpakstan Autonomous Republic. A total of 788 students from grades 1-2 were involved in the study. 356 of them were girls and 432 were boys.

The IAAF Kids Athletics program consisted of two independent game-based components. The use of the IAAF Kids Athletics program components provided the initial development of motor skills necessary for children aged 7 to 8 years to master the available athletics competitions (sprint/running, jumping and throwing). These skills (running, jumping, throwing) were called the "alphabet of athletics" by A. L. Rakovich and colleagues (2015) [14].

In this program, training includes five-step learning of athletic events using special study cards and strengthening these skills through team competitions (competitive element).

The structure and description of the elements of the IAAF “Kids Athletics” program for children aged 7-8 are presented in Table 1.

Table 1

Description of the structure and elements of the IAAF “Kids Athletics” children's athletics program for children aged 7-8

Elements of the IAAF Kids Athletics program	
Training element (all elements are taught in 5 stages using training cards from the IAAF Kids Athletics program)	Competitive element

1	Sprint/Hurdle Jumping Running	A team relay competition consisting of sprints and hurdles.
2	Formula 1 (sprint, hurdles and slalom)	The team relay event consists of flat running, steeplechase and slalom sprint.
3	Eight minute endurance run	The competition consists of team races along a 150-meter track. The results of the team are evaluated.
4	Jump rope	Individual competition: "Jump rope in 15 seconds." Team scores are counted.
5	Forward squat jump	Team competition: Participants perform the "frog" element - jumping on two legs in a squatting position.
6	Speed ladder	Individual competition in the exercise "Running the stairs". Team results are taken into account.
7	Indoor triple jump	The competition consists of individual performances in the triple jump on a closed field. The results of the team are evaluated.
8	Shooting at a target using various methods	A competition that involves individual performance of the exercise "Throwing an object from a hurdle to a target with one hand." Team scores are evaluated.
9	Children throw javelin	Individual competition in "Children's one-handed javelin throw". Team scores will be counted.
10	Knee shot	The competition consists of individual execution of the exercise "throwing a ball with both hands from a kneeling position over a distance." Team scores are evaluated.

A game-based approach provides comprehensive training for young learners and is very important for maintaining positive motivation for training. We selected 37 active games and relay races, 27 of which are aimed at improving the coordination and speed abilities of participants, and most of them are closely related to the composition of athletic training cards. It is noteworthy that ten active games in the game-based approach are aimed at improving the speed and strength abilities of young athletes.

An important component of the game block is handball, which is played according to simplified rules, and preliminary instructions are given on the main groups of handball exercises (elements of movement technique; passing the ball, dropping and throwing the ball, etc.). The choice of handball as a means of training was based on the initial empirical testing of its acceptance by 7-8-year-old children and the addition of special exercises similar to athletics (throwing, running, etc.). This game is also important in developing coordination and speed skills, which is useful for 7-8 year olds.

Results and discussion. To substantiate the effectiveness of using the training methodology for 7-8-year-old secondary school students at the sports and health stage, developed based on the IAAF "Kids Athletics" program, we compared their results before and after the training experience on the following indicators: physical development index (n=5), rapid assessment of physical health, control tests assessing coordination skills (n=7), and the development of a positive attitude towards athletics.

The above methodology was applied during the 10-month training period, including the period of sports and health care of 7-8-year-old track and field athletes. The results of comparing the changes in the indicators of 7-8-year-old students in the experimental (RG) and control (CG) groups during the 10-month experimental period are presented in Tables 2-4.

Table 2 shows a comparison of physical development indices and rapid health assessment scores of boys in the experimental and control groups. It was found that statistically significant differences were observed in 3 out of 6 indicators in the experimental group, while in the control group, only upward trends were observed in these indicators. At the end of the experiment (RG), the Skibinski index, Ruffier index and rapid health assessment scores showed a significant increase (n<0.05), which demonstrates the effectiveness of the developed method in maintaining various aspects of physical health of boys studying in grades 1-2 of a general education school.

Table 2

Comparison of physical development indicators of 7–8-year-old schoolchildren (X ± σ) RG (n=216) and CG (n=216) boys

Indicators of physical development	Group	Before the experiment			After the experiment				
		X	± σ	P1	X	± σ	P2	X displacement, %	P1
Ketle index, g/cm3	RG	3.53	1.66	> 0.05	4.00	1.32	> 0.05	13.33	> 0.05
	CG	2.25	1.89		2.60	1.90	> 0.05	15.56	
Robinson index, optional	RG	2.82	1.59	> 0.05	3.06	1.43	> 0.05	8.33	> 0.05
	CG	2.40	1.67		2.50	1.70	> 0.05	4.17	
Skibinski index, conv.	RG	2.35	1.11	> 0.05	3.06	0.69	**< 0.01**	30.00	> 0.05
	CG	2.45	0.83		2.50	0.92	> 0.05	-6.12	
Shapovalova index, traditional units	RG	4.35	1.11	> 0.05	4.71	0.66	> 0.05	8.11	> 0.05
	CG	4.35	1.04		4.70	**0.73**	**> 0.05**	8.05	
Rufe index, traditional units	RG	-0.53	1.42	> 0.05	0.06	1.65	< 0.05	54.07	> 0.05
	CG	-0.50	1.47		-0.35	1.89	> 0.05	30.00	
Rapid physical health assessment, traditional units	RG	12.53	3.30	> 0.05	14.88	2.29	**< 0.01**	18.78	**< 0.05**
	CG	10.95	3.33		11.85	3.50	> 0.05	8.22	

Note: From now on.

P1: Differences between initial and final scores between groups, P2: Differences within groups

Table 3

Comparison of coordination ability indicators of 7–8-year-old schoolchildren (X ± σ) RG (n=216) and CG (n=216) boys

Test tasks	Group	Before the experiment				After the experiment					
		X	± σ	t1	p1	X	± σ	t2	p2	t1	p1
Tt1	RG	5.79	1.23	0.2	> 0.05	4.78	1.32	2.0	> 0.05	0.6	> 0.05
	CG	5.70	0.92			5.18	1.50	1.5	> 0.05		
Tt2	RG	19.82	20.77	0.1	> 0.05	30.00	31.28	3.2	< 0.01	0.6	> 0.05
	CG	20.56	8.38			23.11	9.51	3.2	< 0.05		
Tt3	RG	29.82	10.84	0	> 0.05	21.64	8.13	8.3	< 0.01	1.5	> 0.05
	CG	29.78	10.52			27.56	10.15	2	> 0.05		
Tt4	RG	41.51	11.11	2.2	**< 0.05**	24.83	6.70	6.1	**< 0.01**	0.7	> 0.05
	CG	31.45	9.39			28.36	14.84	1.1	> 0.05		
Tt5	RG	0.37	0.12	0.6	> 0.05	0.30	0.15	2.1	> 0.05	1.1	> 0.05
	CG	0.42	0.19			0.39	0.20	1.0	> 0.05		
Tt6	RG	4.88	1.02	0.8	> 0.05	3.32	1.08	6.2	**< 0.01**	2.3	**< 0.05**
	CG	5.18	0.69			4.29	0.72	3.2	**< 0.01**		
Tt7	RG	203.27	104.88	0	> 0.05	162.91	79.90	4.2	**< 0.01**	1.1	> 0.05
	CG	201.89	73.87			199.67	71.95	0.6	> 0.05		

Note: From now onT31:

Five quick repetition exercises (O.S. Squat, push-up, push-up, O.S.), sec.

TZ2: Increase in results of standing long jump with arm swing, cm.

TZ3: The difference in the results of the long jump is 50% of the maximum result, cm.

TZ4: The difference in the accuracy of hand force application on the dynamometer is 50% of the maximum result, %.

TZ5: The difference in repeating time intervals of 2 and 3 seconds, sec.

TZ6: the difference in the results of the 3x10-meter distance run and the 30-meter distance run, sec.

TZ7: Accuracy of hitting the medicine ball at the 4-meter mark, cm.

Table 4

Comparison of indicators of coordination abilities of 7-8-year-old schoolchildren (X ± s) TG (n=178) and TG girls (n=178)

Test tasks	Group	Before the experiment				After the experiment					
		X	± σ	t1	p1	X	± σ	t2	p2	t1	p1
Tt1	RG	5.39	0.81	0.9	> 0.05	4.46	2.03	2.3	**< 0.05**	0.6	> 0.05

	CG	5.16	0.92			4.55	1.43	2.6	**< 0.05**		
Tt2	RG	36.65	35.68	1.2	> 0.05	54.53	52.42	4.4	**< 0.01**	0.6	> 0.05
	CG	25.80	17.18			23.11	9.51	3.2	< 0.05		
Tt3	RG	20.09	13.24	1.4	> 0.05	15.24	10.56	6.9	**< 0.01**	1.5	> 0.05
	CG	29.78	10.52			14.00	10.03	1	> 0.05		
Tt4	RG	33.91	13.91	0.1	< 0.05	19.20	11.31	10	**< 0.01**	0.7	> 0.05
	CG	34.57	21.74			31.76	22.11	1.9	> 0.05		
Tt5	RG	0.31	0.13	1.5	> 0.05	0.26	0.14	2.4	**< 0.05**	1.1	> 0.05
	CG	0.39	0.16			0.34	0.20	1.2	> 0.05		
Tt6	RG	4.61	0.82	0.1	> 0.05	3.43	0.91	12.3	**< 0.01**	2.3	**< 0.05**
	CG	4.65	1.02			4.21	1.28	4.1	**< 0.01**		
Tt7	RG	210.00	111.30	0.6	> 0.05	191.82	108.92	4.2	**< 0.01**	1.1	> 0.05
	CG	188.00	111.76			190.65	120.95	0.4	> 0.05		

Studies have shown that the primary school age is characterized by the activation of mechanisms for the development of almost all children's abilities, including physical abilities. At the same time, researchers emphasize that the age from 7 to 10 years is a sensitive period for the development of coordination skills, which is probably associated with the development of children's mental processes and favorable physiological changes in their bodies [5].

Table 3 shows a comparison of the data in the group of girls before and after the experiment. At the end of the experiment, girls in the experimental group showed statistically significant differences in 5 out of 7 tests of coordination skills, while in the control group statistically significant differences were found in only 2 out of 7 tests. At the end of the experiment, there was a statistically significant difference in 1 test between the experimental and control groups: the difference in the results of the 3x10-meter wheelchair run and the 30-meter run ($t=2.3$; $p<0.05$).

Comparing the data of the group of boys before and after the experiment, it was found that the boys in the experimental group also had statistically significant differences in 6 out of 7 tests of coordination development at the end of the experiment (Table 4), while the boys in the control group showed statistically significant differences in 2 out of 7 tests. At the end of the experiment, there were statistically significant differences between the experimental and control groups of boys in 3 tests, namely: an increase in standing long jump performance with the help of shaking hands; the difference in the accuracy of hand force application on the

dynamometer is equal to 50% of the maximum result; and the difference in the results of the 3x10 m sprint and the 30 m sprint (in all 3 tests ($t = 2.1$; $p < 0.05$).

It should be noted that by the end of the first year of the Kids Athletics program, the number of students in the experimental group had decreased by one and in the control group by five.

Conclusion. Summarizing the results of our research, which was conducted using methods appropriate to the research objectives, we can draw the following conclusions:

1. The developed methodology allowed the "Kids Athletics" program to maintain positive motivation in improving the physical fitness, physical development and health of schoolchildren in grades 1-2.

2. The main features of the developed methodology for improving the physical fitness performance of schoolchildren aged 7-8 were as follows:

1) The use of the educational and competitive components of the "Kids Athletics" program in the educational process (each component has eight elements) was of great importance. The training under this program included the study of athletics exercises in five stages using special training cards and the consolidation of these skills through team competitions (competitive element);

2) The introduction of a game component consisting of 37 outdoor games and relay races, as well as special attention was paid to coordination exercises within each component during the teaching of handball elements.

3. The results of pedagogical experience showed that the systematic use of the developed methodology in the classroom gave positive results in mastering the technique of athletics. The "Kids Athletics" program was effective in improving the level of physical development and physical health of 7-8-year-old children, as well as in mastering the main elements of athletics.

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