Efficiency of the use of mobile games in water at the stages of primary teaching for children of primary school age

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The article offers the results of the study of the effectiveness of various programs for teaching the swimming of children of primary school age with the use of mobile games in water.

Purpose: to establish the effectiveness of various methodological approaches in the education of children of primary school age in the process of physical preparedness and swimming.

Materials & Methods: analysis and generalization of the data of scientific and methodological information, analysis of the methods of teaching the swimming of children of primary school age and organization of lessons in the health groups of the basins of Kharkov, pedagogical observation, experiment, mathematical statistics.

Results: it was established that physical culture and health-improving swimming classes for children of primary school age in accordance with the training programs in the EG and CG groups contributed to mastering the swimming skill and mastering the technique of sporting methods of crawl on the chest and back. In the process of comparative pedagogical experiment it was proved that swimming by the program, providing for the use of specially selected outdoor games in water during the main part of each of 36 classes, contributed to more expressed intra-group growth of the majority of indicators of swimming preparedness in comparison with the lessons in the program, where the games were allocated only 35% of the time.

Conclusions: it is determined that the application of the program with extensive use of games in the main part of the lesson makes the classes more interesting, emotional and enables children to get rid of their uncertainty in their abilities.

Keywords: swimming, learning, children, primary school age, playing in the water.

Introduction

Everyone should be able to swim, because swimming is a sport that helps to strengthen health, and at times preserving a person's life. Bathing, swimming, playing in the water are beneficial for the comprehensive physical development of both adults and children. Swimming exercises have a positive effect on tempering a child's body. Thanks to the improvement of the thermoregulation mechanism, the child's immunological properties increase, adaptation to various environmental conditions improves [3; 6]. In addition, systematic swimming exercises lead to an improvement in the work of the circulatory and respiratory organs. In the water, the static tension of the body decreases, the load on the child's spine, which is not yet strengthened and supple, decreases, which in this case is correctly formed, a good posture is developed, and the active movement of the legs in the water in an unsupported position strengthens the baby's feet and prevents the development of flat feet. Thanks to health-improving swimming, the child's nervous system is strengthened, sleep becomes stronger, appetite is improved, the general tone of the body is improved, movements are improved, stamina is increased [1; 7].

Swimming has a beneficial effect not only on the child's physical development, but also on the formation of his personality. Not all children have fun and joy with the water, some are afraid to enter the water, afraid of depth. Psychologists have established that the main danger on the water is not action in it, but a sense of fear and fear of depth. That is why the first steps in swimming training are aimed at helping the child overcome this unpleasant and harmless feeling. Swimming classes develop such personality traits as dedication, perseverance, self-control, determination, courage, discipline, the ability to act in a team, to show independence [2; 3; 7; 8].

Learning to swim is never too late. However, swimming instruction should be started at an early age. This is due to the possibility of more fully and probably earlier use the health and educational opportunities that are laid in swimming. If you can not teach a child to swim at preschool age, you should do this at the first opportunity, for example, at the age of 6–8 (elementary school), because at this age the children are very mobile, energetic, curious and brave enough (the latter circumstance extremely important). The earlier the children learn to swim, the more guarantees from accidents on the water [4].

Features of learning swimming movements are determined primarily by the features of the aquatic environment in which the body moves. There are many factors that affect the student of swimming, which he does not encounter in ground movement, in which he is not able to immediately learn. This is primarily the switching of the usual reactions associated with a solid support and movement in a heterogeneous ground-air environment, adaptation with a new method of supporting water and moving in a homogeneous aquatic environment; the absence of antigravity reflexes and the transition to action under conditions of relative weightlessness; restructuring of breathing; replacement of locomotions in an upright position on locomotion in a horizontal position, etc. [3–5; 7; 8].

Widespread use of games in classes with children is a man-

datory methodological requirement of physical education. Games in the water, except for health value, have great cognitive significance: in the process of playing a person can learn completely new sensations and, first of all, get used to water, learn some element of the technique of swimming. With the help of games are solved a variety of tasks: 1) repetition and consolidation of previously learned exercises and movements; 2) increased emotionality in swimming lessons; 3) strengthening of contacts in the team, education of the partnership; 4) education of independence, initiative, determination [4]. When conducting lessons on teaching children to swim, games for the best performance of a particular movement or mode of navigation in general are of particular importance. This achieves a great deal of emotionality and attention shifting from studying the element to the game. As a result, the exercise is performed with greater ease. Although in the process of playing, the performers perform rather intensive physical work, however, due to their high emotionality and the enthusiasm for the game, they are easily tolerated by large loads. Water games in swimming training also contribute to the mobilization of memory, motor experience, the comprehension of what is happening and the evaluation of their actions (A. I. Ptushko, 2005), the education of courage, determination, self-reliance, initiative (T. I. Osokina, 1991, L. V. Sheiko, 2016, 2017). It is known that games most valuable for achieving educational goals are those in which students use movements that are close to those used in mastering the techniques of sports movements (T. A. Protchenko, 2003). The authors believe that these actions are easily transferred later with a more detailed study of the techniques of sporting methods of navigation and even facilitate their mastery.

Our experience also shows that games are effective from the very first steps in the water. The implementation of specific exercises in the development of water, only facilitated or accelerated, if children will play. Games help to avoid monotony, restore psychological status, develop tactical thinking, culture of communication and prepare for specific professional activities. From this perspective, training programs for swimming are being revised. These programs increase the time and number of games used, which become the dominant means of teaching children to swim. Taking into account the importance of this problem, at the Department of Water Sports of KSAPC there were developed complexes of mobile games in water for mastering with an aquatic environment and for mastering the techniques of sporting methods of swimming that can be widely used in the main part of the session. The proposed game complexes can be used by trainers in the training of swimming children and students during the coaching period.

Relationship of research with scientific programs, plans, themes. The work was carried out in the framework of the initiative theme of the Department of water sports of the KSAPC "Science-methodical basis of the vigor of the healthful swimming in the middle of the local populations".

Purpose of the study: to establish the effectiveness of various methodological approaches in the education of children of primary school age in the process of physical culture and health training by swimming.

Main objectives of the study: to reveal the positive effect in the formation of the swimming skill in children of primary school age as a result of the wider application of the game method of

instruction in the main part of each lesson; determine its effectiveness for the formation of volitional activity to overcome negative emotional reactions in the process of elementary learning to swim.

Material and Methods of the research

To solve the main tasks of the study, we used the following methods: analysis and generalization of data from scientific and methodological literature, analysis of the methods of teaching children in primary school age swimming and organizing lessons in recreational groups in the polls of Kharkiv, pedagogical observation, experiment, mathematical statistics.

As a result of the analysis of literary sources; study of existing programs for teaching children's swimming; acquaintance with work experience in children's groups for swimming training in various basins of Kharkiv, we developed a program aimed at developing a swimming skill in children of primary school age by using a wide range of mobile games in the main part of the lesson. In October 2016 the program was proposed for use in the health groups of the Author's School of Swimming Yu. V. Bliznyuk (Kharkov). To solve the research problems, a pedagogical experiment was conducted. The study involved children 6–8 years (boys and girls) of two groups (control group – CG and experimental – EG) for 15 people in each group. The swimming training course included 36 lessons. Children came to classes 3 times a week. The total duration of the classes is 60 minutes. The first 15 mines that children spent in the dry swimming hall included an explanation and demonstration of new material, general exercises such as warm-ups, preparatory exercises for mastering the techniques of swimming in the ways of crawling on the chest and back. The remaining 45 minutes the children spent in the pool, repeating what they learned in the hall.

The tasks, the content of the lessons, as well as the test requirements in the groups were equal. In the first nine lessons, preparatory exercises for water development were conducted: immersion and floating, exhaling into water, lying on water and sliding (*first stage of training*). In the tenth lesson, it was necessary to fulfill the control standards on the water: "swimming", glide on the chest and on the back, jump into the water down with your feet – head down. For the performance of each exercise, the guys received an assessment (from 1 to 5 points).

Beginning with the eleventh lesson, a parallel study of the elements of the technique of swimming in the manner of the crawl on the back and the crotch on the chest (*second stage of training*). At the end of the training cycle, everyone had to pass the standard for evaluation. To get 5 points, you had to swim 25 m in any of two ways, showing a good technique, 3–4 points – 15 m taking into account the technique, 1–2 points – 15 m without taking into account the technique.

The differences in training in swimming consisted of the methods of conducting lessons: the children of the CG were engaged in a program according to which the main part of each lesson included most exercises for learning the elements of swimming techniques (65% of the total time of the lesson) and only 35% of the time were mobile games. In EG children were engaged in a program, the essence of which was the use of mobile games in the water throughout the main part of each

lesson. According to the proposed program at the first stage of training (from 1 to 9 lessons, 10 – control), which begins with familiarizing the child with water and its properties, with the acquisition of skills and skills to stay on the water; independently, arbitrarily perform the exercise breathing in and out into the water several times in a row (at least 10 times). During the EG classes, in the main part of the lesson, such mobile games in water as:

– "Small and large legs", "Net", "Fish are frolicking", "Crossing", "Find a house", "Find a pair", "Carousels", "Bring the ball", etc., which help those familiar with properties of water;

– "Fountain", "Sea fight", "Pump", "Fishing rod", "Carp and pike", "Hide under water", "Get the toy", "Dive into the hoop" – games aimed at teaching children not to be afraid spray, dive under the water and open your eyes;

– "Sharp ball", "Swing", "Who has more bubbles", "Train to the tunnel" – games aimed at the formation of a specific skill in the respiratory apparatus (breath retardation during inspiration and exhalation, inhale over water, exhale under water);

– "Who will last longer in the position on the back?", "Who will last longer in the position on the chest?", "Fiddles with a float", "Spots with an asterisk" – games for surfacing, lying, sliding on the surface without moving their legs;

– "Jump on", "Jump in a circle", "Whirligig in the air", "Catch the ball during the jump" – games that bring courage and confidence, contribute to faster mastery of technique at first simple jumps, and then prepare for the successful mastery of the starting jump and elements of applied navigation.

Great importance was attached to mobile games in water, based on physical exercises, movement for coordination. Performing them, the guys overcome a number of obstacles, strive to achieve a certain, pre-set goal. Such games as "Torpedo on the rocks", "Arrow", "Motor boat", contributed to the education of will, perseverance and, most importantly, created an emotional mood, which is especially important in the first lessons, when it is necessary to overcome uncertainty.

In the second stage of training (from 11 to 35 lessons, 36 – control), the children of EG, as well as those engaged in CG, mastered the sports ways of swimming, the crotch on the chest and the crawl on the back. Since sporting methods of swimming are complex motor skills, each method of navigation has

been studied in such a methodical sequence: movements by feet – movements by hands – breathing – a combination of movements by hands and feet and only after that – the method of swim as a whole [2–5]. At the second stage of the training in the EG, during the main part of the lesson, mobile games were widely used, which were aimed at mastering slip along the surface of the water with movements of the feet on the chest and back, with movements of the hands in these methods. The category of such games include: "I'm swimming", "Crucians and carp", "Frog-cuckoo", "Swimmers"; games that develop and consolidate swimming movements: "Seals", "Swimmers", "Fountains", "A flock of dolphins", "Whose link is likely to meet?", "Frog-cuckoo", "Fish in the grid," "Polar bears, "With the letter swim".

Results of the research and their discussion

After the completion of the first stage of the training, control tests were conducted in both groups (10th lesson). In the EG, where games were used throughout the main part of the lesson, testing revealed higher results compared to the CG, where only 35% of the time was spent on games (Table 1).

As can be seen from Table 1, the average indicator of the implementation of exercises for development with water at a high level in the CG was 40,0%, in the EG – 60,0%; the rates of exercise at the average level in both groups were almost equal: in CG – 46,7%, in EG – 40,0%; implementation at a low level in the CG was 13,3%, while in the EG – 0%. When conducting a jump in the water in the CG from doing a jump upside down from the standing position, bending (high level) was abandoned by everyone involved, while in the EG such a jump was performed by 6 people (40,0%); a jump from the position of the grouping (average level) in the CG was performed by 4 people (26,6%), EG – 5 people (33,4%); decided to jump down in CG – 11 people (73,4%), in EG – 4 people (26,6%). Based on the results of the first stage of training, the eligible standards for all indicators in the EG at a high level were fulfilled by 50,0% of those engaged; on the average – 36,7%; at a low – 13,3%. In the CG these indicators were respectively: high level – 20,0%, medium – 36,6%, low – 43,4%.

At the end of the second stage of the training, control tests were also conducted in both groups (36th lesson). The final results of this stage of training showed that the quality of learning material in the EG was also higher than in the CG. This is evidenced by the data of the passage of control segments by the method of crotch on the chest and the crotch

Table 1

Performance of credit standards for children of 6–8 years of age who are studying swimming (the first stage)

Benchmarks	Control group (n=15)						Experimental group (n=15)					
	Levels, scores											
	High, 5 points		Average, 3–4 points		Low, 1–2 points		High, 5 points		Average, 3–4 points		Low, 1–2 points	
	NP	%	NP	%	NP	%	NP	%	NP	%	NP	%
Technique of doing exercises for development with water	6	40,0	7	46,7	2	13,3	9	60,0	6	40,0	0	0
jump into the water upside down - downside down	0	0	4	26,6	11	73,4	6	40,0	5	33,4	4	26,6
The average for all performance standards		20,0		36,6		43,4		50,0		36,7		13,3

Remark. *NP – number of people.*

on the back at the range, taking into account the technique of navigation (Table 2).

Analyzing the data of Table 2, it can be stated that the level of development of the technique of swimming on the back crawl in the EG and CG is approximately the same: at the high level the technique in the EG was mastered by 5 people (33,3%), in the CG – 4 people (26,6). An equal number of children in both groups passed this standard to assessments corresponding to the average level, for 8 people (53,4%). A small number of children coped with this standard for assessments corresponding to a low level: in EG – 2 people (13,3%), in CG – 3 people (20,0%). When mastering the technique of the front crawl, some difficulty is caused by the development of the inspiration-exhalation technique. In this regard, the number of people who mastered this method at a high level in both groups is less, in comparison with the development of the technique of the back crawl: in EG – 4 people (26.6%), in CG – only 2 (13,3%). Almost the same number of participants received grades corresponding to the average level: in EG – 8 (53,4%), in CG – 7 (46,7%). In CG, the number of children who received the evaluation for the technique of a front crawl corresponding to a low level was 6 people (40,0%), whereas in the EG only 3 people (20,0%) had low grades. A high level of assessments for the technique of mastering 2 methods of navigation also prevails in EG (5 people – 33,3%). In CG, there were only three (20,0%). Average level in EG swim – 7 (46,7%), in CG – 5 (33,3%), low: in EG – 3 (20,0%), in CG – 7 (46,7) .

It should be noted that even before the beginning of the pilot lessons, the survey revealed that some children of both groups had pronounced negative emotional reactions, manifested in insecurity and fear of doing water. During the experi-ment, observing the children of both groups, it was observed that during the lessons in the EG, there was a greater interest in the exercises, and the negative reactions to performing the exercises in the water were not so pronounced and in fewer cases than in the CG.

Summarizing all of the above, we can draw the following conclusions:

1. Physical culture and health-improving swimming classes for children of primary school age in accordance with the training programs in EG and CG groups contributed to mastering the swimming skill and mastering the technique of sporting techniques. crawl on the chest and back.

2. In the process of comparative pedagogical experiment it was proved that, at the same time expenses, swimming by the program, providing for the use of specially selected mobile games in the water during the main part of each of 36 lessons, contributed to more expressed intra-group growth of most indicators of swimming preparedness in comparison with lessons on the program, where games were given only 30–35% of the time.

3. Application of the program with the extensive use of games in the main part of the lesson makes the classes more interesting, gives the chance to get rid of uncertainty in their abilities, stimulates the formation of children in volitional activity aimed at reducing the emotional tension caused by the specific conditions of training in the water.

Prospects for further research are related to the development of programs for physical preparedness and swimming for children of secondary and senior school age.

Table 2

Performance of credit standards for children of 6–8 years of age who are studying swimming (second stage)

Benchmarks	Control group (n=15)						Experimental group (n=15)					
	Levels, scores											
	High, 5 points (25 m taking into account the technique)		Average, 3–4 points (15 m taking into account the technique)		Low, 1–2 points (15 m without taking into account the technique)		High, 5 points (25 m taking into account the technique)		Average, 3–4 points (15 m taking into account the technique)		Low, 1–2 points (15 m without taking into account the technique)	
	NP	%	NP	%	NP	%	NP	%	NP	%	NP	%
Swimming front crawl	2	13,3	7	46,7	6	40,0	4	26,6	8	53,4	3	20,0
Swimming back crawl	4	26,6	8	53,4	3	20,0	5	33,3	8	53,4	2	13,3
Swimming in two ways	3	20,0	5	33,3	7	46,7	5	33,3	7	46,7	3	20,0

Remark. *NP – number of people.*

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