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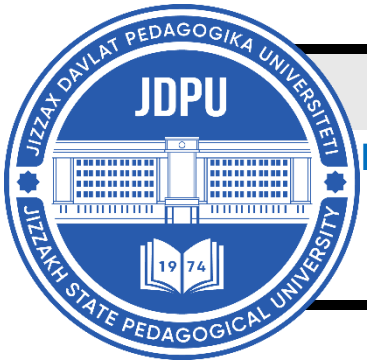

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DETERMINING THE ADVANTAGES OF TEACHING SWIMMING TO 13-15-YEAR-OLD SCHOOLCHILDREN (BASED ON THE BREASTSTROKE TECHNIQUE)

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ABOUT ARTICLE

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Abstract: The article presents the method of initial training of high school boys in swimming on the basis of breaststroke technique. It can be a base for learning other ways of swimming.

INTRODUCTION

Monitoring the physical and mental development of schoolchildren conducted by specialists has revealed a decline in physical activity and performance indicators among children and adolescents. A significant number of students are not physically fit and face numerous challenges in meeting the requirements set for their age, often struggling to overcome them. It is worth noting that swimming is one of the most important physical exercises that plays a key role in the healthy growth and development of children at this age. Teaching schoolchildren mass swimming is particularly significant, as this activity not only instills consistent adherence to hygiene practices but also develops essential skills that will benefit them throughout their lives.

Additionally, it is important to highlight that two-thirds of adolescents recruited for military service are completely unable to swim, a fact that cannot be ignored. Literature frequently discusses teaching mass swimming to adolescents in a short time frame, either in summer health camps or in school settings. The breaststroke technique is recognized for its

ease of learning among students, making it an effective foundation for mastering other swimming techniques later. However, there is a notable lack of methodological materials designed as a program specifically aimed at teaching students in this direction.

The readiness of students for physical exercises has been proposed to contribute to their development of various motor skills and movements required for growth. Despite the critical social importance and urgency of publishing more scientific studies on the physical development of students through swimming, such publications remain insufficient.

Research Object: The swimming training of 13-15-year-old students in secondary schools.

Research Subject: The methodology of teaching upper-grade students to swim using the breaststroke technique in a comprehensive manner.

Research Aim: To achieve programmatic excellence in the educational process for upper-grade students by applying a comprehensive swimming methodology.

Research Objectives: Based on the aim, the following tasks were addressed:

1. Determining the level of swimming preparedness among adolescents aged 13-15.
2. Implementing the methodology of comprehensive swimming instruction using the breaststroke technique in physical education classes for adolescents aged 13-15.
3. Evaluating the effectiveness of the comprehensive methodology for teaching swimming using the breaststroke technique to adolescents.

Methods Used to Address the Objectives:

- Analysis of scientific and methodological literature;
- Analytical methods for assessing swimming readiness;
- Pedagogical observations;
- Pedagogical experiments;
- Mathematical and statistical methods.

Pedagogical Experiment

The pedagogical experiment was conducted at the swimming pool of Sports School No. 1 in Bektemir District, Tashkent City. The purpose of the experiment was to evaluate the application of a comprehensive methodology for teaching swimming to upper-grade students during physical education classes and to determine the advantages of this approach.

- During the study, students were divided into two groups: an experimental group and a control group. The control group consisted of students learning swimming techniques through traditional methods. Meanwhile, the experimental group was taught swimming

techniques using a comprehensive approach during physical education classes. Initially, the students learned the breaststroke technique, followed by the addition of freestyle (front crawl) and backstroke techniques.

• Both groups participated in swimming lessons twice a week for a duration of 45 minutes per session, ensuring equal lesson durations and workloads for both groups. Control tests were conducted before the start and after the completion of the experiment to assess the results.

Findings:

During the pedagogical observations, it was concluded that teaching upper-grade students to swim was primarily carried out using traditional methods based on parallel and sequential approaches. However, students with limited or no prior swimming experience struggled to acquire swimming techniques effectively during the lessons.

• The study revealed that the process of mastering swimming materials was influenced by the students' initial swimming preparedness. The results showed that the effectiveness of learning different swimming techniques among 13–15-year-old students was significantly low at the start of the experiment. The pre-experiment tests demonstrated a very low percentage of proficiency in swimming techniques among students in this age group (as presented in Table 1).

Percentages of Experimental and Control Group Students Demonstrating Proficiency in Various Swimming Techniques Before the Experiment:

Table 1

Groups	Swimming Techniques for a 50-Meter Distance	Percentages of Mastery in Swimming Techniques
НГ	Backstroke Crawl	13,04
ТГ		9,52
НГ	Front Crawl (Freestyle)	26,08
ТГ		23,8
НГ	Breaststroke	4,35
ТГ		–

Thus, high school students achieved an average result of 24.94% in swimming

50 meters using the front crawl stroke. The percentage of adolescents who swam using the backstroke technique averaged 11.28%. Only 4.35% of the students managed to swim 50 meters using the breaststroke technique, while the remaining students could not even swim a distance of 25 meters.

In the process of teaching schoolchildren to swim, a noticeable difference in the time required for mastering swimming techniques emerges, highlighting students who already

possess some degree of readiness. Preparatory swimming exercises are assimilated at an extremely low level by the students. Those with the lowest readiness levels managed to grasp the exercises by approximately the fifth lesson, students with moderate readiness by the third lesson, and those with higher readiness levels accomplished this during the first lesson.

During swimming practice, mastering arm and leg movements along with proper breathing also demonstrated low proficiency among students. For instance, students with minimal readiness levels succeeded in these tasks by the fourth lesson, while those with moderate readiness achieved this by the third lesson, and students with higher readiness levels mastered them by the second lesson.

Students with lower readiness levels struggled to perform the following technical exercises required in swimming lessons: synchronizing arm and leg movements with breathing, swimming using full coordination of a specific technique, and executing starts and turns. Students with moderate swimming readiness encountered these challenges to a lesser extent and typically overcame them within four to five lessons. Meanwhile, students with higher swimming readiness faced almost no such issues, mastering the required techniques within two to three lessons.

Overall, the swimming readiness of upper-grade students can be assessed as low.

It is well-known that if a person has never been in water, jumping into it can trigger feelings of insecurity and fear. This, in turn, leads to significant difficulties in the learning process. In such cases, it is essential to pay attention to the student's psychology and prioritize building self-confidence. This outcome can be achieved by applying the comprehensive teaching method for swimming.

In the analysis of literary sources, the basis for assessing the readiness of young students for swimming in physical education classes is also rooted in the complex (integrated) teaching method based on the breaststroke. Teaching basic swimming exercises to upper-grade students, as proposed for the experimental group, involved a method divided into three blocks:

1. Improving physical readiness through exercises aimed at enhancing flexibility, speed, strength, and muscle power development, performed through swimming movements.

2. Enhancing technical readiness by mastering the tempo of arm and leg movements in swimming, specifically focusing on the breaststroke, front crawl (freestyle), and backstroke (back crawl), as well as mastering dry-land elements of swimming.

3. Comprehensive teaching of swimming techniques, primarily focusing on the breaststroke method. Initial movements, such as half-sitting, standing, or lying positions, involve separate movements of the arms and legs with support, and later progress to full coordination in swimming technique.

The physical preparation of students in teaching swimming movements.	The technical preparation of students in mastering swimming techniques on land.	The technical preparation of students in mastering swimming techniques in water.
Exercises that develop muscle strength.	Technical mastery of arm and leg movements in swimming techniques such as breaststroke, front crawl, and backstroke.	In the initial movements, exercises involving sitting and standing lead to bending and straightening the legs.
Flexibility development exercises.	Mastering the technique of hand and foot movements in swimming using the breaststroke, front crawl, and back crawl methods, while adjusting the speed of execution.	Learning the technique of separate movement of hands and feet in easy conditions.
Exercises that develop speed-strength preparation.	Mastering the rhythm of executing arm and leg movements in breaststroke, front crawl, and backstroke techniques.	Teaching the technique of arm and leg movements separately while swimming.
		Swimming with full coordination.

The organization of swimming lessons was considered in three stages.

In the first stage, attention was focused on improving physical preparation based on flexibility, strength-speed qualities, and muscle endurance, as a preliminary preparation for engaging in water activities.

In the second stage, emphasis was placed on mastering the elements of swimming technique on land. During this phase, the swimming technique was primarily taught using the breaststroke method. The main focus was on helping the students master the rhythm and tempo of swimming movements.

In the third main stage, the students' attention was directed to mastering the swimming techniques starting from the breaststroke, followed by the front crawl technique (breaststroke) and the backstroke technique in the water.

Teaching swimming elements in the water is conditionally divided into two parts:

1. Developing the skill of standing on the water surface;
2. Teaching movement in the water.

The students in the experimental group showed better performance than the control group in mastering basic floating skills in the water.

In the methodical sequence presented by us, the process of swimming exercises progresses step by step, starting with the abandonment of the support device (such as a float) and moving on to exercises where the swimmer maintains a vertical position while touching the bottom of the pool. At the same time, more complex movements are introduced, such as gliding using arm movements, and performing full coordination swimming exercises with the support of a partner.

The swimming exercises used with the experimental group focused on developing swimming technique and physical qualities by emphasizing the initial working position of the swimmer and the use of supporting equipment. This approach, based on the breaststroke technique, helps lay the foundation for mastering other types of swimming styles. Students who mastered the arm and leg movements of the breaststroke technique well were able to easily adapt to other swimming methods in sports.

In the third stage of identifying the benefits of using the integrated teaching method in swimming, it was determined that the results of the experimental group students, compared to those of the general group, were as follows: 86.5%, 88.9%, and 92.6% for the three swimming techniques (breaststroke, backstroke, and freestyle). In contrast, the control group (NG) showed results of 45.3%, 58.7%, and 71.1% (Table 2).

Percentage of students in the experimental and control groups in mastering different swimming techniques after the pedagogical experiment.

Table 2

Groups	Swimming Techniques for 50-meter Distance	Percentage of Mastery of Swimming Techniques
НГ	Backstroke Crawl	45,3
ТГ		86,5
НГ	Front Crawl (Freestyle)	58,7
ТГ		88,9
НГ	Breaststroke	71,1
ТГ		92,6

Swimming technique assessment (Table 3) at the end of the research process in sports swimming methods revealed that the experimental group students were rated highly ($p < 0.001$). Compared to the control group students, they demonstrated significantly better mastery of techniques, particularly in swimming 50 meters using breaststroke ($p < 0.001$) and 50 meters using the butterfly stroke ($p < 0.001$). The control group students, who learned parallel and sequential swimming methods, were assessed with significantly lower scores.

Comparison of swimming technique indicators between the control and experimental group students.

Table 3

Swimming techniques	Groups		Reliability of differences	
	КГ (x±m)	ЭГ (x±m)	t	p
Backstroke Crawl	3,47±0,02	4,94±0,01	65,74	< 0,001
Front Crawl (Freestyle)	3,56±0,02	4,72±0,03	32,17	< 0,001
Breaststroke	3,11±0,03	4,97±0,02	51,59	< 0,001

The difference in the results of mastering swimming technique by students was clearly expressed at the end of their training, during the time it took to swim the control distance. During the research, to more reliably determine the strength of swimming skills, the control distance of 25 meters was tested by the students of both the experimental group (TG) and the control group (NG) using the breaststroke, backstroke, and freestyle techniques.

The time taken by the senior class students from the control and experimental groups to swim the 25-meter control distance.

Table 4

Swimming techniques	Groups		Differences	Reliability of differences	
	ЭГ (x±m)	КГ (x±m)		t	p
Backstroke Crawl	27,0±0,72	28,9±0,53	1,9	2,13	< 0,05
Front Crawl (Freestyle)	29,5±1,01	32,7±0,94	3,2	2,32	< 0,05
Breaststroke	30,3±1,12	33,8±0,89	3,5	2,45	< 0,01

The reliability indicator in the experimental group students ($p < 0.05$-0.01) showed that the results of the proposed research for swimming the 25-meter distance were considered optimal. The results achieved in the swimming sport training methods also confirmed the validity of this research outcome.

Thus, during the research process, a comprehensive approach to teaching swimming was developed and proposed for investigation. According to this methodology, young students not only acquire swimming techniques but also master and confidently apply a strict and reliable sport.

At this age, students rapidly and efficiently master various swimming techniques such as breaststroke, front crawl, and backstroke. This also demonstrates the high evaluation of

their swimming technique at the control distance ($p < 0.05–0.01$), providing evidence for the above argument.

CONCLUSION

1. The assessment of students' swimming readiness revealed that their knowledge and skills were not uniform. Among the younger students, the mastery of various swimming techniques showed the following results: front crawl – 24.94%, backstroke – 11.28%, and breaststroke – 4.35%. Overall, the swimming readiness of high school students was assessed as very low.

2. In physical education lessons, the comprehensive teaching method based on the breaststroke technique was implemented for teaching swimming to younger students. The initial methodology for teaching swimming to high school students consisted of three blocks. The organization of lessons included three stages of swimming skill development.

3. Mastery of swimming and technical skills was fully substantiated during the research process. The younger students performed swimming techniques faster and more efficiently during the control distance in sequential order: breaststroke – front crawl – backstroke ($p < 0.05–0.01$).

REFERENCES

1. Bulgakova, N. Zh., Fomichenko, T. G., Avdienko, V. B. Retrospective analysis of the dynamic and time characteristics of the techniques of the strongest swimmers in the country, recorded in their junior age groups // Theory and Practice of Physical Culture. 1995, No. 10. Pp. 48–51.

2. Bogdanov, O. A. Comparative analysis of the physical development and physical fitness of female students who entered the A. I. Herzen RSPU in 1983 and 2005 / O. A. Bogdanov, V. S. Kunarev. // Theory and Practice of Physical Culture and Sports. – 2006. – No. 9. – Pp. 55–56.

3. B. B. Musaev, B. A. Ishimov. The effectiveness of recommended experimental exercises for increasing leg strength in breaststroke swimmers. Science-Sport № 7-2020. Scientific and theoretical journal.

4. B. A. Ishimov. Development of strength training for swimmers by the Breaststroke method. Eurasian Journal of Sport Science. Vol. 1, Article 5. 01.10.2021. (31–38). [13.00.00 Order No. 01-10/403]

5. Ishimov, Bohodir Amirkulovich. Improving the efficiency of experimental exercises recommended to increase the leg strength of breaststrokers. International Bulletin of Engineering and Technology IBET, Volume 2, Issue 12, December.

6. Limarenko, O. V. Interactive health monitoring as a universal form of quality control for physical education for schoolchildren / O. V. Limarenko. // Health for All. – 2010. – No. 1. – Pp. 28–34.

7. Levushkin, S. P. Dynamics of physical development of schoolchildren in Ulyanovsk / S. P. Levushkin // Physical Culture: Education, Training, and Coaching. – 2005. – No. 1. – Pp. 56–57.

8. Makarenko, L. P. Learn to swim breaststroke. / L. P. Makarenko – Moscow: Physical Culture and Sports. – 1983. – 32 pages.