
**ANALYSIS OF EDUCATION FOR CHILDREN'S SWIMMING AT SWIMMING CLUB
"PIRIN"**

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Abstract: The aim of the study is to analyze the level of swimming training for athletes who have mastered the techniques of swimming styles with a marked sporting focus. The effectiveness of the training was determined by the achieved growth rate of the test results at the end of the training period of one year. We have defined the efficiency of the training thanks to the positive test results from the conducted test by the end of the training period for the year. The test contained physical and swimming exercises.

The results from these exercises show that 1) our training process has been carried out correctly which is the reason for the high test results at the end of the year; 2) The analyze from the results could be used for children with high sport perspectives.

In conclusion, the children's swimming training has positively influenced the following directions:

- Positive physical changes have been achieved;
- Interest in swimming sport had been created;
- The techniques of various auxiliary and specially preparatory exercises are mastered;
- Techniques of swimming styles are built.

Keywords: swimming, training, methodology, swimming styles, swimming technique, styles.

INTRODUCTION

The readiness to achieve high scores in a sport such as swimming is a complex multifactor process, based on the technical and tactical, physical and mental prerequisites that shall be at the optimal level of development and interaction according to the requirements of the specific competition distance. The age to start a purposeful training process in most countries is within the range of 7 to 13 years. The duration of the training is determined by its purpose and tasks, the pre-training, the individual and age specifics of the trainees, the conditions and the organization of work.

At present, in Bulgaria there are no precise and uniform criteria for assessing the process of initial training with a sport focus. The sports score as an integral indicator has proven low prognostic significance in the age range of 8-11 years and should not be used as the sole assessment tool. Criterion for assessing the training process should be the complex technical preparation of 8-9 year old swimmers.

According to N.V. Platonov and Vaytsehovski, S.M. (1985), the main task in this period of swimming training is to determine the appropriateness of choosing a child to engage in a given sport, taking into account their morphological and functional features and their mental peculiarities. According to data of Bulgakova from 2002, the most favourable starting age for training is 10-13 years.

For the check of the effectiveness of the training performed after applying a test battery, essential is the increase of the acquired swimming skills in the athletes.

MATERIAL & METHODS

Objective: The objective of this study is to analyse the swimming training of the students with sport focus, as well as to identify prospective children for their inclusion in systemic training activities as the beginning of the many years of sports training.

Subject to the study are 32 children – 17 boys and 15 girls from swimming club 'Pirin' aged between 9 and 10 years.

METHODS

Control tests

For the accomplishment of the scientific research objective, we developed a test battery for establishing the level of acquired swimming skills after the children's training.

Physical qualities

Flexibility – performed by standing on a gymnastic bench with the body leaning down and stretched arms. We measure with accuracy of 1 cm.

Flexibility of the shoulder girdle – reported is the grip at a measurement stick in cm, after transfer of the stick with arms stretched in the elbows facing front to back over the head. We measure in cm. the highest grate is obtained with lowest distance between the grip.

Swimming tests:

- Crawl - 50 meters;
- Backstroke - 50 meters;
- Breaststroke - 50 meters;
- Butterfly - 50 meters.

Swimming tests are measured in a 50 m pool after a beep. Children swim in series. We measure the time with a manual stopwatch with accuracy up to 0.01 seconds.

RESULTS

We test the flexibility of the shoulder area and the lean forward flexibility in the beginning and at end of the swimmers' training. The results achieved are shown in Figure 1 and Figure 2.

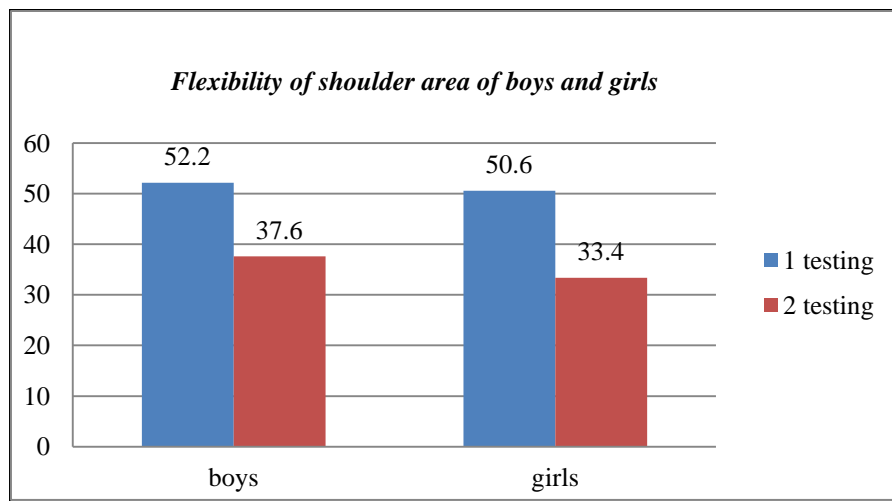


Figure no. 1. Flexibility of shoulder area of boys and girls

The figure shows that the average success rate for flexibility showed a greater increase in favour of boys with a value of 14.6 cm, and the girls' increase is 17.2 cm.

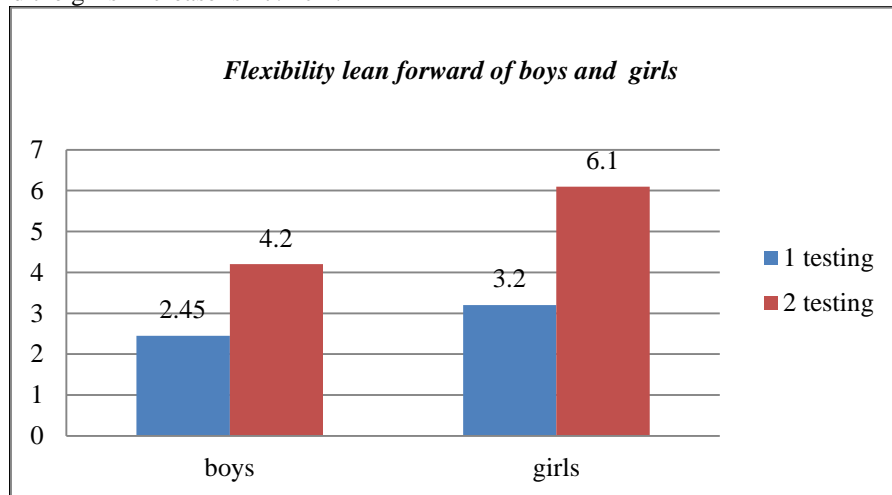


Figure no. 2. Flexibility lean forward of boys and girls

Figure no. 2 shows that the average success rate in the lean forward test greater increase have the boys with a result 1.75 cm, and the girls' increase is 2.90cm.

SWIM TESTS RESULTS

The swimming tests were conducted at the end of January and at the end of July following the implementation of the consistent methodology for children's training. The results obtained are shown in Figure no. 3 and Figure no. 4.

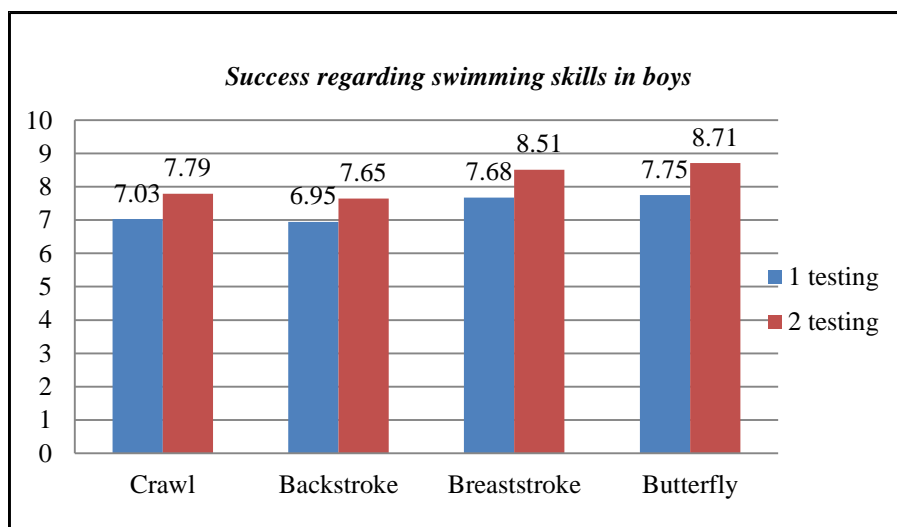


Figure no. 3. *Success regarding swimming skills in boys*

The figure shows that the boys' results between the first and the second testing in 50 meters crawl has an increase of 7.6%, in 50 meters backstroke – 7.0%, in 50 meters breaststroke – 8.3% and in 50 meters butterfly – 9.6%. There is a significant increase of the results in all four swimming styles. Greatest increase the boys have in mastering the technique of butterfly swimming style, and least is the increase in mastering the technique of the backstroke style.

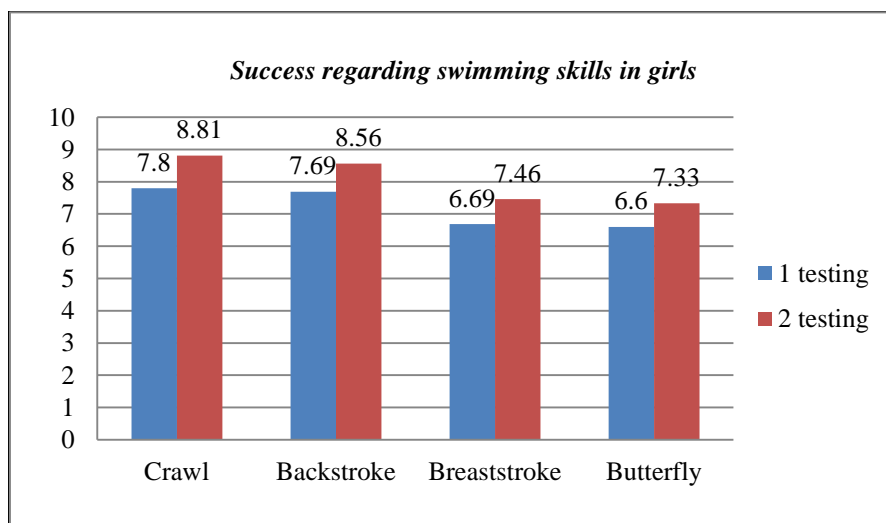


Figure no. 4. *Success regarding swimming skills in girls*

The figure shows that the girls' results between the first and the second testing in 50 meters crawl has an increase of 10.1%, in 50 meters backstroke – 8.7%, in 50 meters breaststroke – 7.7% and in 50 meters butterfly – 7.3%. There is a significant increase of the results in all four swimming styles. Greatest increase the girls have in mastering the technique of crawl swimming style, and least is the increase in mastering the technique of the butterfly swimming style.

The results from the study of the swimming skills received from the two tests were subjected to additional statistical processing to assess whether there are significant differences in the groups.

We have to compare the average values characterising the tests results via the Student's t-test for dependent samples when comparing the same indicator at the start and end of the study in the experimental group.

Since one and the same group of children is studied, the alternative hypothesis H_1 is used that states that there is a significant difference between the indicator's average levels in the group.

From the boys' results it was found that when comparing the average values, the empirical values of the Student criterion are higher than the table values for all swimming styles respectively: 50 meters freestyle - $t_{emp} > t_a$ (6.78 > 2.09)- significant differences; 50 meters backstroke - $t_{emp} > t_a$ (5.76 > 2.09)- significant differences; 50 meters breaststroke - $t_{emp} > t_a$ (8.56 > 2.09)- significant differences, and 50 meters butterfly - $t_{emp} > t_a$ (8.78 > 2.12).

From the girls' results it was found that when comparing the average values, the empirical values of the Student criterion are higher than the table values for all swimming styles respectively: 50 meters freestyle - $t_{emp} > t_a$ (7.87 > 2.12)- significant differences; 50 meters backstroke - $t_{emp} > t_a$ (9.54 > 2.12)- significant differences; 50 meters breaststroke - $t_{emp} > t_a$ (8.34 > 2.12)- significant differences, and 50 meters butterfly - $t_{emp} > t_a$ (9.67 > 2.12).

As a result of the statistical analysis, the following conclusion can be drawn, that the results of comparing the average values of the studied groups of children are statistically distinct. Which is the proof of the effectiveness of the applied swimming training.

EXPERTS' ASSESSMENT OF SWIMMING TECHNIQUES

Assessment of the technique - good body composition, proper breathing, symmetry and sequence of movements of hands and feet in and out of the water are assessed. The rating of the technique has 3 levels: good, medium and weak.

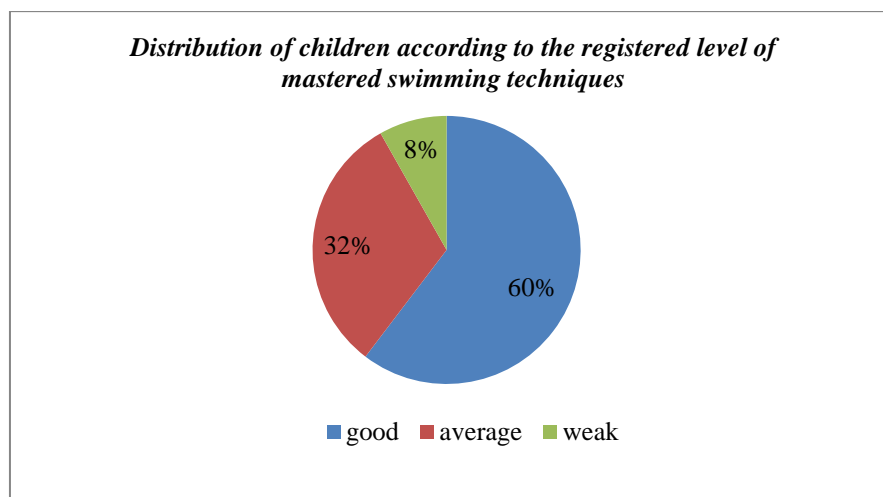


Figure no. 5: Distribution of children according to the registered level of mastered swimming techniques

On the grounds of the set criteria for assessing the swimming technique, the results' analysis shows that 60.35% of the children are rated 'good', 31.45% - 'average' and 8.20% - 'weak' technique rating.

The results obtained with regard to the level of the swimming technique are of interest due to their statistical significance in terms of the achieved level of swimming training.

In order to establish the correlation between the achieved level of swimming training and the level of the swimming technique is used the chi-squared test (χ^2), because the empirical data are presented by variables of two scales – ordinal (success level) and nominal (assessment of swimming technique that is characterised mainly qualitatively). If we formulate a zero hypothesis (H_0), which states that there is no logical relation between the child's achievement (swimming level reached) and the level of mastering of swimming techniques, the alternative hypothesis states that such a relation exists. The empirical feature of the hypothesis is $\chi^2_{emp} = 8.21$, while $\chi^2_t = 5.88$ ($\alpha=0.05$). The comparison of the theoretical with the empirical features if the hypothesis, and namely: $\chi^2_{emp} > \chi^2_t$ (8.21 > 5.88), gives reason to reject the zero hypothesis in favour of the alternative one, which means that there is a regular link between the level of swimming training and the level of mastering the swimming techniques.

OUTCOMES

The results at the end of the study show that swimming lessons had a positive impact on the technique and the results of the children studied.

The analysis of the tests' results in general shows that in regards to the test of the swimming skills of children tested by a series of tests, at the end of the training the boys had an increase of 11% and the girls – 12.20%.

Registering the levels of swimming techniques and the level of swimming training that has been reached allows us to identify the children with potential for inclusion in the group for sport improvement.

The children with average results in swimming techniques remain under supervision and those with weak results in swimming styles techniques - in the group for training.

CONCLUSION

One of the important questions regarding the building of the many years' training process is the determination of the age for conducting initial training and the age for start of practice. Of great significance for the achievement of sports mastery are the periods of initial training and the basic practice. This requires some reassessment and differentiation of training and practice, especially in terms of their start, content and duration.

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