Experimental Training Methods Designed for Junior Swimmers

Narcis Florian NEAGU

Abstract
Systematization efficiency criterion means specific physical training on land development, taking into account the peculiarities of junior swimmers somatosensory functional and performance requirements of athletic training can increase training efficiency with direct reflection on sports performance. The subjects investigated: Lot research sample was composed of 24 junior swimmers belonging to Emil Racovita High School Sports Club. The subjects in the experimental group intervened during a year of training with working application independent variable. To achieve the goal of this research have made specific ranking criteria means the effect produced on indicators of optimizing physical training on land and hence the outcome of sporting junior swimmers. The results of our research lead to the conclusion that the independent variable of the study was supported by athletes and led to a rapid progress in fitness and competition results as well.

Keywords: resources, training, sport fitness, junior.

JEL classification I1, Y1, I2

1. Introduction

Problems of optimization of physical training, literature dedicated domain always special attention. Whose reason for this interest is due therefore to plan synthesizing knowledge and experience gathered worldwide on optimizing physical training? Perhaps more cases have caused this shift concerns to such a problem: the whole scaffolding training driving skills and gestures and their exploitation in competition depend on the motor skills that you highlight. I mean, how fast can be expressed to overcome the resistance of water in a unit of time less without its efficiency to decrease, but rather increase.

Anatomical and functional substrate involved in physical training and retraining whole methodology determines suitability driving gestures determined by competition swimming.

Purpose:

Develop a physical training program that can determine success in high performance process bras. In the literature of swimming I met few works that relate directly to issues of theoretical and practical on the subject.

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Hypothesis:
Systematization efficiency criterion means specific physical training on land development, taking into account the peculiarities of junior swimmers somatosensory functional and performance requirements of athletic training can increase training efficiency with direct reflection on sports performance.

Research methods:
Observation method. By this method we followed the training process of swimmers during the experiment.

Two methods were used for observation:
- Direct observation was made both from inside and outside the training process, ie affective and effective participation of observer training lessons.
- Indirect observation was made by studying planning documents and records of the team coach.

The experimental method. I followed the sequence of steps of physical training on land junior swimmers and the question I tried to answer was: how to adapt it to every swimmer in the sample recorded?

The content of the experiment entailed and other scientific research methods exposed.

Computerized assessment method. This method was used to assess the level of physical training on land in conditions as close to the water. For evaluation were used: computerized evaluation system with accessories Ergos system. Working position was lain down face and working time was 2 min.

Descriptive statistical method including: mean, median, standard deviation.

The content of experiment:
The subjects investigated

The lot was composed of 24 junior swimmers belonging Emil Racoviță School Sports Club. Athletes of the research are practicing swimming from 8-9 years. They participated in several editions of sports clubs Championships and National Championships for juniors, where they ranked between 1st and 16th place in several branches of samples in different events.

To verify the hypothesis we divided the study group of athletes, random counting of four, in two samples: one that applies the experimental program and second one that constituted the control group. This method of distribution determined the group of athlete’s homogeneity.

Group A - experiment. In preparing this group we used independent variable of our research to optimize physical training ashore at junior swimmers.
Group B - control. In training this group was used training plan developed by the regular team coach (which includes physical training program on land), but not including independent variable of our research.

Number of hours of training both in water and physical training was identical for both groups.

Periods of research: The research was conducted during a year of preparation. In this study we have conducted several tests: initial, intermediate and final - made in dynamic within 6 months.

Data recording was carried out as follows:
- Initial testing was conducted in order to know the time of the initial values of the parameters studied.

The subjects in the experimental group intervened during a year of training with working application independent variable.

Place of study

The experiment and successive testing were conducted in the facilities of the National Complex "Lia Manoliu" swimming pool.

The main parameters tested for of the evaluation of physical training on land at of the junior swimmers were as follow:
1) Testing the level of physical training followed within specific samples carried in water: 100 breaststroke, 200 m. Breaststroke.

2) Analysis of indices obtained by testing conditions simulator "Ergos" active length (cm.), Work (j), active time (ms.) For passive power (w), load, total mechanical work (kj.) notes.

Experimental research organization
- The first step was to establish two research groups.
- Establishing preparedness planning programming and athletes.
- Content operational structures development - independent variable.
- Conducting tests to assess physical training during junior fitness optimization.
- Data collection and collected results interpretation.
Conducting research:

To achieve the goal of this research have made specific ranking criteria means the effect produced on indicators of optimizing physical training on land and hence the outcome of sporting junior swimmers. Methodical procedure used was that of the circuit.

This method was created by the British Morgan and Adamson for developing strength under stress.

The process takes its name from the organization which involves passing athletes from one workshop to another, working on a number of muscle groups equal to the number of workshops.

<table>
<thead>
<tr>
<th>Table 1. Procedeul Bras Probe 100 m, 200 m breaststroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means</td>
</tr>
<tr>
<td>-------</td>
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<tr>
<td>Lying back, trolley traction feet thrust into the motherboard, 35o inclination</td>
</tr>
<tr>
<td>Working breaststroke arms simulator Ergosim</td>
</tr>
<tr>
<td>Lying back, pushing for the press. Thigh 45-50 Kg</td>
</tr>
<tr>
<td>Jumping over gym bench</td>
</tr>
<tr>
<td>Traction helcometru 40 Kg</td>
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<tr>
<td>Lying back, lifting the vertical trunk</td>
</tr>
<tr>
<td>Sitting back on a fixed scale, the sponge roll, grasping a rung on the palms.</td>
</tr>
<tr>
<td>Traction arms bras with expander</td>
</tr>
<tr>
<td>Lying face, trunk extension</td>
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<tr>
<td>Push Ups</td>
</tr>
</tbody>
</table>

Results: Table 2. Table centralized. Final testing

<table>
<thead>
<tr>
<th>Sample</th>
<th>Group</th>
<th>Arithmetic</th>
<th>Standard</th>
<th>Devia</th>
<th>Am</th>
<th>Variation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active time</td>
<td>Control</td>
<td>980.00</td>
<td>3.16</td>
<td>2.17</td>
<td>12.0</td>
<td>0.32</td>
</tr>
<tr>
<td></td>
<td>Experi</td>
<td>1300.92</td>
<td>36.42</td>
<td>29.25</td>
<td>110.0</td>
<td>2.80</td>
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<tr>
<td>Passive Time</td>
<td>Control</td>
<td>1302.33</td>
<td>7.91</td>
<td>6.61</td>
<td>23.0</td>
<td>0.61</td>
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<tr>
<td></td>
<td>Experi</td>
<td>1211.08</td>
<td>55.84</td>
<td>38.44</td>
<td>205.0</td>
<td>4.61</td>
</tr>
<tr>
<td>Power</td>
<td>Control</td>
<td>100.67</td>
<td>3.47</td>
<td>2.83</td>
<td>11.0</td>
<td>3.45</td>
</tr>
<tr>
<td></td>
<td>Experi</td>
<td>119.25</td>
<td>5.50</td>
<td>3.92</td>
<td>21.0</td>
<td>4.61</td>
</tr>
<tr>
<td>Total mechanical</td>
<td>Control</td>
<td>7.20</td>
<td>0.07</td>
<td>0.05</td>
<td>0.22</td>
<td>0.92</td>
</tr>
<tr>
<td></td>
<td>Experi</td>
<td>8.60</td>
<td>0.11</td>
<td>0.08</td>
<td>0.42</td>
<td>1.29</td>
</tr>
</tbody>
</table>
The entire study demonstrated certain progress of the experiment group comparing with the control group due to the independent variable of our research. The increase in performance from the application variability is observed—testing simulator Ergos condition. It offers an area of similar effort provided by swimmers in water.

Thus the active length test group experience a significant increase in the length of actual rowing compared with the control group. The marks obtained by the two group’s simulator testing conditions Ergos are in favor of the experimental one, demonstrating a higher efficiency stroke in this group.

The work calculated for the two groups belonging to the group is higher at both experiment and final term test.

The results obtained during the research to develop indices of physical training on land preparation have demonstrated the effectiveness of experiment group and the new training program. The good results recorded in using variable independent research are successfully transferred to the water in the swimming competition tests. Thus in the 200 m. breaststroke experiment group get a better result at the end of our research.

**Conclusions:**

A concept of training should include how the drive to achieve superior athletic performance. Leading scientific training, it should be based on objective data as much as possible taking into account the hierarchy, optimizing and standardizing them.

The results of our research lead to the conclusion that the independent variable of the study was supported by athletes and led to rapid progress. The independent variable must be applied strictly in number of repetitions, duration of breaks, taking into account the characteristics and age of the swimmers studied.

Following this research our results show that the independent variable of the study produced significant increases in physical training on land that has been successfully transferred in water swimming competitions.

At the end of the investigation we observed significantly improved values of the
subjects in the experimental group compared with the control group.

Recommendations:

The methods of training are used in accordance with the size, intensity and complexity and effort associated with the nature and length of the breaks. Such adjustment measures entail new features of training methods.

REFERENCES

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