The influence of the environment on the physical fitness of students of the agro-industrial complex

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Abstract. In this article we reviewed a comprehensive study in the field of modeling in physical culture and sports, as well as the influence of the environment on the physical fitness of students of the agro-industrial complex. To improve physical education, modeling plays a decisive role, since through it the training process is controlled, which determines how an athlete will develop and improve his physical qualities necessary in a particular sport. When considering the physical training of students, the average level of indicators will be taken into account, which will be the most optimal in the implementation of professional activities. The highest rates, as a rule, are used in the preparation of athletes for competitions, where the main goal will be to achieve the best result. There is an opinion that the model characteristics of students are formed on the basis of anthropometric indicators that reflect a person's height, body weight, chest circumference, etc., which depends on gender, age, the type of sport a person is engaged in, for example, if it is basketball, then the athlete's growth, psychological and social health indicators will depend on it, which manifest themselves in the behavior of the student before passing the test, exam or any other passing standards in a regular class.

1 Introduction

The relevance of this study is due to the fact that at present a large number of athletes realize themselves in professional sports, and therefore new directions are being developed in the field of physical culture and sports.

The improvement of physical culture is increasing every year and acquiring new sections. In order to increase the level of physical fitness of students, modeling is used.

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Modeling is a method in which a particular object is studied on models. In physical training, modeling can be carried out, for example, general and special training. In the process of general physical training, they develop muscle structure, master various motor skills. The model level of preparedness is its highest indicator, which every student should strive for in order to better master one or another technique of special or general physical training.

There are also model characteristics that make it possible to distinguish between what the highest indicators can be achieved at a particular age. Through model characteristics, a differentiated assessment of students' physical fitness indicators takes place [1].

Before compiling model characteristics in various sports, preparatory procedures are carried out to determine the level of development of the physical qualities of athletes, which are essential for achieving high results, most often this is testing.

Model characteristics of students are formed on the basis of anthropometric indicators that reflect a person's height, body weight, chest circumference, etc., which depends on gender, age, the type of sport a person is involved in, for example, if it is basketball, then growth will depend on this athlete, psychological and social indicators of health [2], which are manifested in the student's behavior before passing the test, exam or any other passing standards in a normal class.

When developing a model of a successful specialist for the purposes of professional-applied physical training, the features of labor activity are studied, the requirements for a specialist, the data of leading specialists are averaged, and possible deviations of indicators are determined. When studying the model characteristics of students' physical training, the greatest importance is given to the study of the totality of subjects and it is also necessary to take into account the requirements that will be imposed on them in their future professional activities [3].

2 Organization and research methods

The study involved students of different ages and genders, specializing in standing long jump. The organization of the study was based on the specifics of the fulfillment of the assigned tasks.

We selected 20 students in the experimental group, who passed a series of tests in physical education, according to the results of which some of the students successfully coped with the tasks set, and some showed poor results.

We also conducted tests, selected 20 tests that reflect the student's possession of the physical qualities necessary to achieve high results in a particular sport.

In the course of the study, methods were used to monitor the manifestation of physical qualities by students during the passage of tests, analysis and synthesis, to determine what parts the model characteristics of physical fitness consist of, a deductive method was also used, in which the general properties of modeling were studied for a better understanding of its particular features.

3 Results and its discussion

The results of the ongoing research have shown the importance of modeling in the field of physical fitness, it is influenced by many factors. Differentiation of indicators was carried out on the basis of those factors that are of the greatest importance, in this case, this is the student's age. The older the student, the better his sports training, respectively, in our case, the performance in the standing long jump exercise was better, so he is more trained and experienced in this direction (Table 1).
Table 1. Jump in length from a place.

<table>
<thead>
<tr>
<th>№</th>
<th>Estimated control exercise</th>
<th>Age /years/</th>
<th>The degree of mismatch with the model level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Model level</td>
</tr>
<tr>
<td>1</td>
<td>Jump in length from a place (cm)</td>
<td>18</td>
<td>155</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21</td>
<td>190</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22</td>
<td>195</td>
</tr>
</tbody>
</table>

For example, for students aged 18, the model level is 155 centimeters, the degree of small mismatch will be 8 centimeters, the average is 13, and the large is 16. The larger this mismatch, the less points any of the athletes will receive for this standard.

Based on the table, we can conclude that every year the standard increases by 5-10 centimeters, this is due to the fact that during the year the student improves, which entails an increase in the requirements for his physical training in the corresponding course.

To determine the weight coefficient, the following table is proposed using the example of gymnasts (Table 2).

Table 2. Weight coefficients of SFP indicators of gymnasts aged 18-22.

<table>
<thead>
<tr>
<th>№</th>
<th>Estimated control exercise</th>
<th>Age /years/</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>1</td>
<td>Run 20 meters (sec)</td>
<td>0.38</td>
</tr>
<tr>
<td>2</td>
<td>Jump in length from a place (cm)</td>
<td>0.30</td>
</tr>
<tr>
<td>3</td>
<td>High jump (cm)</td>
<td>0.22</td>
</tr>
<tr>
<td>4</td>
<td>Hanging pull-ups (number of times)</td>
<td>0.76</td>
</tr>
<tr>
<td>5</td>
<td>Hanging pull-ups 10 for time (sec)</td>
<td>0.24</td>
</tr>
<tr>
<td>6</td>
<td>Lifting by force on the rings (number of times)</td>
<td>0.94</td>
</tr>
<tr>
<td>7</td>
<td>Roll up (number of times)</td>
<td>0.57</td>
</tr>
</tbody>
</table>
The weight coefficient of indicators, as a rule, is the highest in tests that reflect the structure of special physical training.

As a result of monitoring the performance of the evaluated control exercises, it can be concluded that gymnastics is at a high level of development and athletes strive to achieve high performance.

4 Conclusion

Modeling is a quantitative indicator, formed on the basis of three main approaches. In the first approach, the performance indicators of athletes are averaged in the process of competitive activity, as well as the determination of their individual characteristics [4-13].

In the second approach, a relationship is established between the level of sportsmanship and the dynamics of changes in the indicator among athletes [5, 14].

The third approach reflects the level of the athlete with the highest results, on the basis of which the model characteristic will be formed in a particular exercise or sport [6, 7].

Modeling of physical training as a method of organizing training is fundamental, since the effectiveness of the amount of work performed depends on it. The importance of modeling lies in the fact that modeling develops the ability to reason and find options for a rational solution to situations [8, 15, 16]. Models have their own classification based on the understanding of the model as a means of displaying one or another part of reality for the purpose of its knowledge. In sports practice, the classification of models presented by A. A. Bratko, P. L. Volkov, A. N. Kochergin and G. I. Tsaregorodtsev, who subdivide all models into three types [9, 15]:

physical real e-models that have a similar physical, biological nature with the nature of the phenomenon under study, differing in size and speed of the phenomena (for example, in gymnastics - articulated models of gymnasts);
real-mathematical - these include modeling of competitive conditions, the use of technical means;
logical-mathematical - these models are abstract, they include the growth of sports achievements, the level of sports preparedness, technical skills [10, 11].

References