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Jumps and vaults – cartogramme education in the first class

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Abstract

The development of a programme (cartogramme – table schematic and text presentation of the experimented gymnastic exercises), influencing the physical and technical preparation, as a general rule gives good result. There exists rich methodological literature in gymnastics, but it contains not always everything necessary to the teacher. In the specialized literature usually the exercises are developed only in written and illustrated with pictures – often far from the text which is inconvenient to the users. This is the reason why we decided to fill in the existing methodologies with some our visions and what the pedagogues should know in the performance of the exercises foreseen for the relevant age group.

The cartogramme presented in a table of two pages one after the other, creates good visual image of the users. By grounded arrangement of the locomotive activities is improved the effect of the knowledge with gymnastic character at the beginning stage of the secondary educational level at school.

Key words: Gymnastics, jumps and vaults, cartogrammes, primary education, first class

Introduction

The jumps and the vaults are not only way for training the equilibrium stability in landing, but they are also means for the development of the muscles the upper and the lower limbs.

The education according to definite programme is presented by [3,10,11,12] as precise arrangement of series of methodological activities and exercises, leading to the shortest way for acquiring new locomotive skills [2,4,6,14] and for forming locomotive habits.

The fullest description of programmed education in our opinion gives [7,13] recommending the relevant methods for learning of gymnastic exercises. [1,5,8,9]

Aiming at passing the knowledge in synthesized way, our objective is to develop, experiment and implement in the educational process in gymnastics – jumps and vaults – applications (presentation of the exercises in schematic text way) when fulfilling the following tasks:

1. Search of literature sources. Establishment of the dynamics of the parameters about the physical development and the physical ability of the students from the first class.
2. Experimenting and proposing for implementation in the practice of the study process in the beginning stage of the secondary level of education – educational programmes (cartogrammes) of exercises – jumps and vaults from the kernel “Gymnastics” for the students from the first class.

Object of the investigation are students from the first class and *subject* is the methodology of education in the study process in gymnastics.

Methods

Exercise

The investigation is carried out in 2007 with students from IV school – Blagoevgrad, Studied and evaluated were 2 jumps and 1 vault. The Control Group was educated by the wholesome method and the Experimental Group by the proposed by us cartogrammes – partite method for studying gymnastic exercises in the first class. In both classes there were representatives of the two genders. The following methods for scientific research were used:

1. Theoretical analysis and search in the literature sources and normative documents. 2. Tracking the dynamics of the features for physical development and physical abilities of the students from the first class I diagnostic control and finalizing experiment by standard methodologies. 3. Pedagogical experiment – conducting classes according to prepared cartogrammes. 4. Expert evaluation of the level of sport technique of the students. 5. Mathematic-statistical methods. Were used variable and comparative analysis, t – the criterion of Student, the velocity of growth of the parameters – V, the acceleration of growth – a and the coefficient of effectivity K from the primary, intermediate and the final investigation.

$(V_1 = \bar{X}_2 - \bar{X}_1 : 1,5_{\text{month}}, V_2 = \bar{X}_3 - \bar{X}_2 : 1,5_{\text{month}}, \alpha = V_3 - V_1 : 3_{\text{month}}. (\text{investigated period}), K_{ef} = \frac{V_{e.gr}}{V_{c.gr}} : 3_{\text{month}})$ (Table 1).

Results

For proving the homogeneity of the investigated groups at the beginning of the experiment in regards of the investigated parameters is used t-criterion of Student for equality of sample average data the parameters for physical development and physical ability.

Table 1
Speed of growth, acceleration and coefficient of effectivity of the investigated groups

Test	V _{1c}	V _{2c}	A _c	V _{1E}	V _{2E}	a _e	K _{ef}
Weight (kg)	0.747	0.58	-0.8	0.73	0.62	-0.076	0.559
Height (cm)	0.987	0.553	0.89	1	0.67	-0.87	1.33
Long jump (cm)	1.82	1.33	-0.32	5.98	3.07	-0.65	2.15
Flexibility (cm)	0.18	0.66	0.089	0.84	0.66	-0.116	2.72
Keeping hanged with bent hands	0.33	0.47	0.89	1.02	0.67	-0.24	0.8
Horizontal detention lying occipital	0.26	0.36	0.06	1.02	0.84	-0.12	2.82
Horizontal detention lying	0.68	0.74	0.71	1.45	1.09	-1.26	1.78

Technique of execution of jumps and vaults:

1. In training the exercise jump from bench, turning 90^0 , the following marks were obtained: C. Gr. – boys – good 3.8, E. Gr. – boys – very good 5.4, C. Gr. – girls – good 4.2, E. Gr. – girls – very good 5, C. Gr. – good 4.0, E. Gr. – very good 5.2. The experimental group made the following mistakes – not enough turning with hands and hard landing. It must start from the fingers of the foot with consequent contraction in: ankle, knee and hip joint in standing body, the hands aside. The exercises for strength of the lower limbs with stepping character – multiple jumps with quoting and finding stable final position;

2. During the teaching the exercise jump from low to high, the experiment group made the following mistakes – not enough waving of hands, the control group – not enough quoting during the jump, hard landing. The jump from the ground and the landing on the bench finishes and starts with the fingers of the feet and for equilibrium with the hands aside. Exercises for strength of the lower limbs – vaults from a circle, semi quoting to: astraddle standing; standing with hands raised aside;

3. During the teaching of the exercise support vaults with moving ahead, the experimental group made the following mistakes – closed hands, and the control group – the head moved backward, not stretched hands. The exercises for turning of the upper limbs and the torso – detention in support and others. The exercises for preserving the dynamic equilibrium support – from support rising of feet up to horizontal by partner with moving by projection of the shoulders before and after the support points.

Discussion

In acquiring the jumps and vaults the better presentation of the experimental group is due to strengthening of the muscles of the lower limbs by suitable baton and moving games, connected with jumps, vaults and vaults in the preparatory part of the exercise as well as with the performance of the additional task in the basic part of the lesson.

The total average mark of all exercises in the control group is Good 4.03 and of the experiment group is Very Good 5.17. The difference in the total mark of the investigated groups is 1.14 which is indicative for the faster acquiring and the better marks of the experimental group. This is result the applied set of didactic means, general and special preparatory exercises.

This correlates with the obtained data by [13] where the experimental group using programmed algorithmic education has reached 92.5% successfulness and the control group 53.7% successfulness in the exercise on the ground “forward roll forward from squatting support to astraddle sitting”.

Conclusions:

The teaching and acquiring of gym exercises in the beginning stage of the secondary educational stage is liable to permanent development.

The growth of the physical parameters in the experimental group is due to the improved physical possibilities of the muscles of the upper and lower limbs by the implementation of generally developing exercises, moving and baton games as well as additional tasks containing elements of the taught exercise.

The application of the cartogramme education at that age increases the level of the technical preparation of the students (4.03 for the Control group and 5.17 for the experimental group) expressed as quantity – for the quality of performance (effectivity) the experimental group is evaluated with 1.14 points higher and makes easier the acquirement of gym exercises, creates locomotion and space sensitivity and gives new image during the teaching and leading of the lesson.

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