

ARENA-JPA, ISSN 2285-830X
11, pp. 41-51, 2022

Consolidation of lateral Danilova in female artistic gymnastic

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Abstract

Introduction. Artistic gymnastics is one of the most beautiful sports disciplines, offering a show of great virtuosity, mastery and art. She helped to get to know our country, taking the fame of this discipline to the farthest corners of the world, raising Romanian sport to the highest heights of glory.

The goal. The purpose of the paper is to promote the application of the algorithmic program, which I have created, in order to learn and perfect the acrobatic element of the lateral jump, lateral Danilova in female artistic gymnastics.

The hypothesis. Using the methods and means proposed by me in this work, I believe that this can lead to a faster, correct and effective acquisition of the lateral jump, lateral Danilova.

Work methodology. The study was carried out during the 2022-2023 school year, between September and February, including female athletes who practice artistic gymnastics from the 3rd grade. We applied the experiment on the group of children who participated in artistic gymnastics training nine times a week.

Results. From the analysis indicators statistically looking performances experimental when **scoring the technical execution of the technical element - lateral Danilova, lateral jump** (with marks from 1-10), the conclusion can be formulated that been stabilized arithmetic mean, for TEST initially it was 3.71, and for the final test of **6.21**. When scoring the technical execution - Danilova lateral, lateral jump from the point of view of the **amplitude (height) of the jump** (with marks from 1-10) , the conclusion can be formulated that been stabilized **arithmetic mean**,

for test initially it was 2.71, and for the final test of 6. From the analysis indicators statistically looking PERFORMANCE experimental when **scoring the technical execution-lateral Danilova**, lateral jump from an artistic point of view (**with marks from 1-10**), it is possible from the conclusion that been stabilized **arithmetic mean**, for test initially it was 2.92, and for the final test of **5.71**.

Conclusions. The work approached can be considered up-to-date due to the methodical line approached, which capitalizes on the experience of the gymnasts who are part of the Olympic team.

Keywords: consolidation , elements technical , training , preparation physics , program.

Introduction.

Currently, performance gymnastics has a special dynamic that offers the audience spectacularity and elegance, developing both in the degree of difficulty of the elements that hold the audience in their hearts, but also in the complexity of the movements and the composition of the exercises, registering a remarkable progress over time (Grigore V., 1998).

In artistic gymnastics, a diversification of the training of gymnasts is required, due to the fact that the tests require an alternation of efforts and the execution of certain movements specific to the apparatus, so that the jumps, the beam and the floor engage in effort the lower train, while the parallels more on the upper one (Grigore V., 2001).

A requirement of the current artistic gymnastics is the originality of the movements, elements, connections and composition within an exercise, the elegance and skill of the gymnast with which they highlight the superior qualitative presentation of the entire exercise, posture and expressiveness (Hahn,E., 1996).

The variety of the technical content of an exercise is also given by the scoring code, which changes from 4 to 4 years (even more often), the gymnast having to learn new elements, connections and constantly improve her technique from year to year.

Due to the development of the difficulty and complexity of the elements, it forces trainers to pay more attention to the creation of new, more original and more difficult elements, but also a good mastery of the correct techniques.

Coordinative abilities generically designate a complex of predominantly psychomotor qualities that assume the ability to quickly learn new movements, quick and efficient adaptation to varied conditions, specific to different types of activities, by restructuring the existing motor fund (A. Dragnea, A. Bota, 2006) .

According to (Manno R., 1996) the component elements of the coordinative capacity are:

- the ability to orient and coordinate movements, which also includes segmental coordination;
- the capacity for spatial-temporal orientation;
- kinesthetic differentiation capacity;
- balance capacity;
- motor reaction capacity;
- the ability to transform movement;
- sense of rhythm.

The coordination capacity depends on the genetic endowment of each individual athlete, it being an innate quality (Emilia Florina Grosu, 2009). This ability must be given special importance from the early period, because analyzing the gymnastics polyathlon for both girls and boys, it is requested in all competition apparatuses, gymnastics being a complex sport from all points of view (Mihai Epuran, 2002).

In artistic gymnastics, the psychomotricity components are (Horghidan V., 2000):

- body diagram;
- dynamic coordination;
- static coordination – balancing;
- perceptual-motor coordination;
- speed of movements;
- ideomotricity;

Articular mobility is a basic quality in the practice of artistic gymnastics, it represents the human ability to perform large-amplitude movements, by own forces or under the influence of external forces, (Weineck , J., 1992).

Some authors such as (Macovei , S., Vasile, L., 2009) prefer to use the term "flexibility" (musculo-ligamentary, neuro-muscular and joint flexibility) for this quality.

To determine the correct execution of the element lateral jump - lateral Danilova , it was decomposed into the following structures of moments, phases and positions (Vieru N., 1997):

Initial position, which includes: the preparatory phase, the directing-loading phase, the detachment moment, lift-flight-rotation phase, the landing phase (Dina L., 2006).

The final position comprising: preparatory phase, directing-loading phase, detachment phase, flight-rotation phase, the landing phase (Dina L., Niculescu G., 1999).

The goal.

The purpose of the paper is to promote the application of the algorithmic program, which I have created, in order to learn and perfect the acrobatic element of the lateral jump, lateral Danilova in female artistic gymnastics.

The tasks of the work consist of:

- performing a synthesis of the data from the specialized literature regarding the topic addressed;
 - establishing, according to the coordinates of the element, the muscle groups involved in the execution of the element;
 - selection of the most effective means for the 3 series of exercises within the algorithmic program for learning the lateral jump, lateral Danilova;
 - formulating conclusions and proposals.

The hypothesis.

Using the methods and means proposed by me in this work, I believe that this can lead to a faster, correct and effective acquisition of the lateral jump, lateral Danilova.

Work methodology.

I carried out the study and research for the preparation of the work at the "Cetate Deva" High School with a sports program, which has special conditions for artistic gymnastics activities, with two gymnasiums and several spaces intended for specific training for the four apparatuses from female artistic gymnastics, as well as for conducting choreography classes.

The study was carried out during the 2022-2023 school year, between September and February, including female athletes who practice artistic gymnastics from the 3rd grade. We applied the experiment on the group of children who participated in artistic gymnastics training nine times a week.

The subjects are between 9-10 years old. The initial measurements were carried out in September 2022, and the final tests took place in February 2023.

After carrying out the initial testing, the athletes included in the research activity carried out a physical and technical training program in order to strengthen the technical element "Danilova laterala", lateral jump, according to the exercises presented in tables no. 1 and 2.

This program was carried out weekly at six training sessions (of 9/week) from September 2022 to February 2023. I administered two tests, an initial test in September and a final test in February. In these tests we evaluated the following (giving marks from 1-10):

- technical execution - lateral Danilova, lateral jump;
- the amplitude (height) of the lateral Danilova jump, lateral jump;
- technical execution - lateral Danilova, lateral jump from an artistic point of view.

Research methods use in the development Job.

In the development the work I used next methods (Tudor V., 2000):

- a) The study bibliographic;
- b) Method experimental;
- c) Method statistical - mathematical data processing (Stefan Tudos, 2000). Indicators which I used in the This one research are: arithmetic mean, amplitude, standard deviation, coefficient of variability (Epuran M., 2005);
- d) Method graphics.

Results.

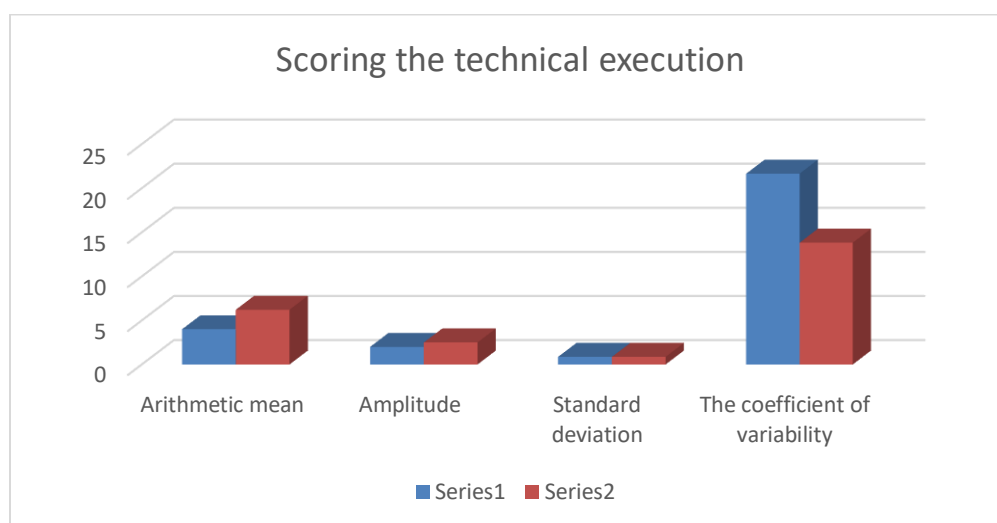
From the analysis indicators statistically looking performances experimental when **scoring the technical execution of the technical element-Danilova lateral**, (with marks from 1-10), the following can be formulated conclusions:

- been stabilized arithmetic mean, for test initially it was 3.71, and for the final test of **6.21**;
- important extremely small variation amplitudes (2-2.5) reflect a field limited by data variation primary, what what the satisfy on full the condition of homogeneity;
- standard deviation of one variables random is a measure of dispersion important it's in the around one considered average, how much this one it is may small, that's all the degree of dispersion of the values feature studied it is may reduced (**0.86 - 0.85**);

- considered important obtained through prisma of the coefficient of variation is observed that all dates primary they come from the crowds homogeneous both for sample experimental How and for control sample results in the follow speed running being included in the interval: **21.65 - 13.82**;

Table no. 1 - Scoring the technical execution - Danilova lateral

Scoring the technical execution - Danilova lateral (with marks from 1-10)		
Subjects	Initial testing	Final testing
1	3	5
2	4.5	6.5
3	5	7.5
4	4	6
5	3.5	5.5
6	3	6
7	5	7
Arithmetic mean	3.71	6.21
Amplitude	2	2.5
Standard deviation	0.86	0.85
The coefficient of variability	21.65	13.82



Graph no. 1 - Evolution indicators statistics from the point of view of technical execution - lateral Danilova

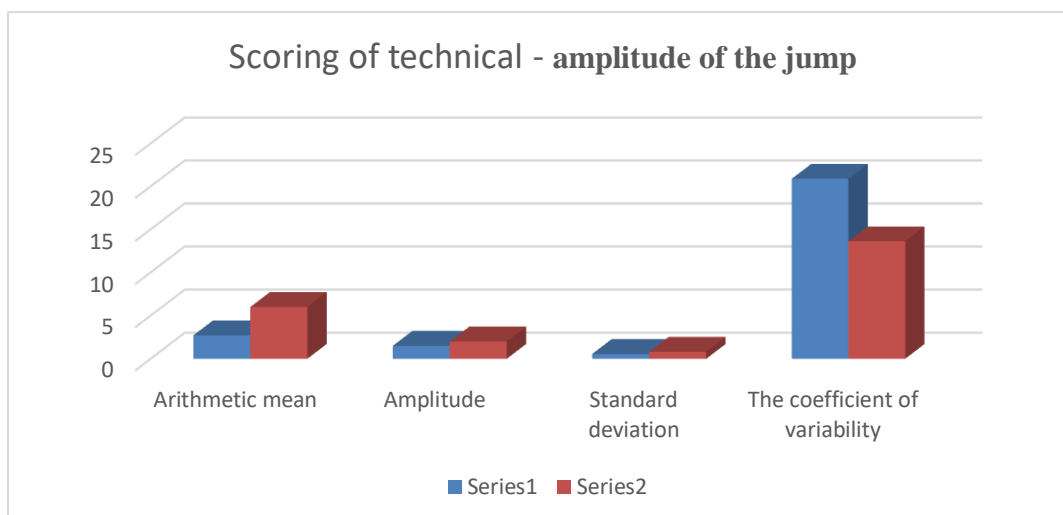
From the analysis indicators statistically looking performances experimental when scoring the technical execution - lateral Danilova, lateral jump from the point of view of the

amplitude (height) of the jump (with marks from 1-10) , the following can be formulated conclusions :

- been stabilized **arithmetic mean**, for test initially it was 2.71, and for the final test of 6;
- important extremely small **variation** amplitudes (1.5-2) reflect a field limited by data variation primary, what what the satisfy on full the condition of homogeneity;
- **standard deviation** of one variables random is a measure of dispersion important it's in the around one considered average, how much This one it is may small, that's all the degree of dispersion of the values feature studied it is may reduced (**0.57 - 0.82**);
- considered important obtained through prisma **of the coefficient of variation** is observed that all dates primary they come from the crowds homogeneous both for sample experimental how and for control sample results in the follow speed running being included in the interval: **20.88 - 13.60**;

Table no. 2 - Marking of the technical execution - Danilova lateral, amplitude of the jump

Scoring of technical execution - lateral Danilova, AMPLITUDE of the jump (with marks from 1-10)		
Subjects	Initial testing	Final testing
1	2.5	5
2	3	6
3	3.5	7
4	2	6
5	3	5
6	2	6
7	3	7
Arithmetic mean	2.71	6
Amplitude	1.5	2
Standard deviation	0.57	0.82
The coefficient of variability	20.88	13.60



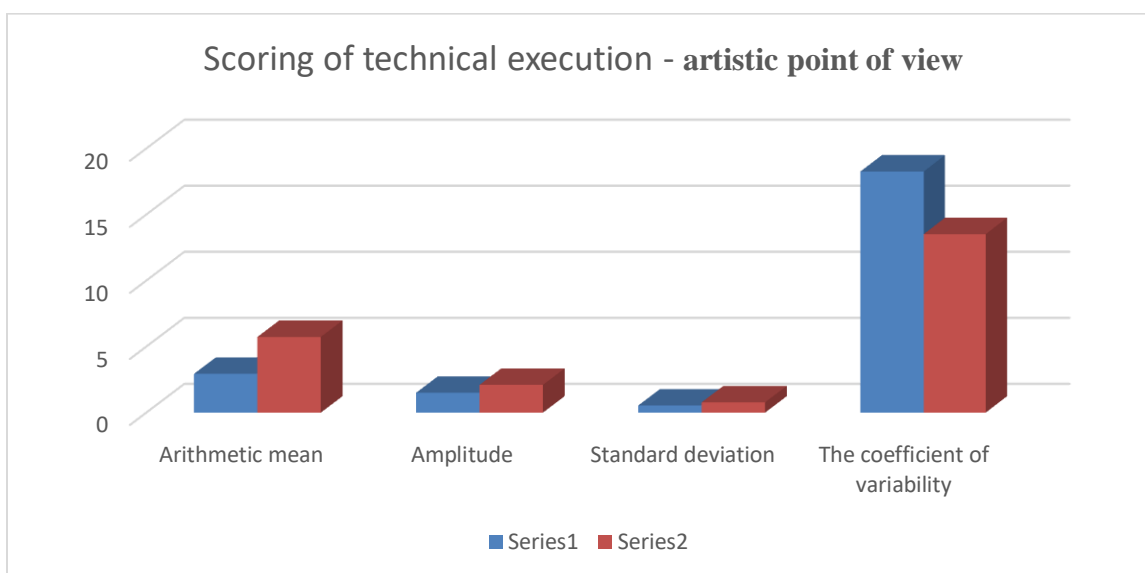
Ggraph no . 2 - Evolution indicators statistics from the point of view of technical execution - lateral Danilova - from the point of view of the **amplitude (height) of the jump**

From the analysis indicators statistically looking performance experimental when **scoring the technical execution** - lateral Danilova, lateral jump from an artistic point of view (**with marks from 1-10**), the following can be formulated conclusions :

- been stabilized **arithmetic mean**, for test initially it was 2.92, and for the final test of **5.71**;
- important extremely small variation **amplitudes** (1.5-2.1) reflect a domain limited by data variation primary, what what the satisfy on full the condition of homogeneity;
- **standard deviation** of one variables random is a measure of dispersion important its in the around one considered average, how much this one it is may small, that's all the degree of dispersion of the values feature studied It is May reduced (**0.53 - 0.77**);
- considered important obtained through prisma **of the coefficient of variation** is observed that all dates primary they come from the crowds homogeneous both for sample experimental how and for control sample results in the follow speed running being included in the interval: **18.25 - 13.51**;

Table no. 3 - Scoring the technical execution - Danilova lateral, from an **artistic point of view**

Scoring of technical execution - lateral Danilova ARTISTIC point of view (with marks from 1-10)		
Subjects	Initial testing	Final testing
1	3	4.5
2	2	5.5
3	3	6.5
4	3.5	6
5	3	5
6	3.5	6
7	2.5	6.5
Arithmetic mean	2.92	5.71
amplitude	1.5	2.1
Standard deviation	0.53	0.77
The coefficient of variability	18.25	13.51



Graph no. 3 - Evolution indicators statistics from the point of view of technical execution - lateral Danilova - from the **artistic point of view**

Conclusions.

According to the requirements of the FIG scoring code, the combination of the side jump (lateral danilova) with other elements offers the possibility of obtaining additional tenths in the final mark. The tools used were structured on three series of exercises, thus representing the methodical requirements of the algorithmic programming for learning the lateral jump (Danilova lateral). The tools used in the algorithmic program were verified and perfected during personal training at the level of the Olympic female artistic gymnastics team. The work approached can be considered up-to-date due to the methodical line approached, which capitalizes on the experience of the gymnasts who are part of the Olympic team. Considering the logical ordering of the means used in the training of gymnasts in accordance with the principles of learning, we propose:

- generalized application of algorithmic programs for learning technical elements, at all performance levels in female artistic gymnastics;
- using the work to constitute a methodical support in learning this element;
- the development of a methodical material for learning the lateral jump (Danilova lateral) , which can be used by coaches in the training of gymnasts.

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