

CONTENT OF BI-COMPETITIVE TRAINING MEANS IN AN ANNUAL TRAINING CYCLE OF JUNIOR FEMALE GYMNASTS

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Abstract: *The author presents the content of training means in an annual cycle of the junior female gymnasts. To do this we felt that by providing an optimal relationship between the content of bi-competitive training means during the same stage of training will emphasize the level of learning the technical elements on apparatus and the successful participation in both competitions planned.*

The research was conducted over a bi-competitive training period, during 4 micro-cycles, the period 19.04.2010 to 14.06.2010, with a group of 6 junior female gymnasts: 4 of category IV and two of category III, 9 to 12 years old, selected from the entire group. This approach has led to a study conducted in the Gymnastics Department of School Sports Club no.2 of Bucharest.

During the study period one has monitored the bi-competitive training for the National Championship for Children, Focşani 14-15.05.2010 and for the National Team Championship for Juniors, Buzău, 18-20.06.2010. The analysis of the contents of the means applied in the bi-competitive training of Juniors IV female gymnasts showed that the training was done to improve the technical elements of category IV, 1st and 2nd training level, and to learn technical elements of higher difficulty required for category III at each apparatus. The study results demonstrated that these methodological guidelines serve as effective training method for increasing the capacity for performance. Depending entirely on the competitive calendar, on gymnasts' training level and on the characteristics of competitive effort at various levels of training, this guidance is rarely seen in artistic gymnastics. The optimization of the training by improving the elements of category IV on each apparatus and by learning technical elements necessary for category III during the same training session leads to the bi-competitive training in women's artistic gymnastics. The proper application of this form of competitive training should be utilized effectively in training only if we take into account the methodological aspects allowing us to use it.

Keywords: *artistic gymnastics, means, performance, planning, bi-competitive training.*

1. Introduction

Artistic gymnastics is currently experiencing a new level of development

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as for the content and assessment of exercises. The new modifications of the Code of Points related to the technical elements difficulty, the granting of bonuses for the connections at each apparatus and, last but not least, the specific requirements of each apparatus will determine new orientations and trends for the technical training on the competition apparatus (Potop, 2008).

The goal of the training is to reduce the tension induced by stressful agents, to develop the athlete's cognitive and lucid capacity of analysis of the sports situation and to strengthen the technical answers that will be used in the competitions to come (Potop, 2005).

Some specialists consider that the competition means represent a component of the training, called "in full", that is practiced during the sessions and micro-cycles specific to the end of the pre-competitive stage and to the competitive period. With the introduction of competitive means, the said structures shall be designed entirely modeled in conformity with the competitions in which athletes will participate. Matveev (1986) proposed a classification of competition means according to the motor structure of the sports branches, dividing them into categories, groups, subgroups and types of exercises; the gymnastics is included in complexes of exercises of polyathlon competition with a content to be renewed periodically under the form of sports art (Dragnea, Teodorescu –Mate, 2002).

The ultimate goal of sports training is to achieve maximum sports results, which also represent the main "engine" of gymnastics development. The elaboration of a training program for a certain period is an important stage that involves from the beginning the modeling of the main quantitative and qualitative indicators of training content, in accordance with

athletes' level and the duration of the proposed training cycle (Vieru, 1997).

The competition is considered an activity, which summarizes the work results of both athlete and coach after a long period of time. The competitive training differs from the keeping-fit gymnastics activities according to the goal of participation in competitions. Depending on the nature of competition, the focus is on the compulsory and free work program, emphasizing the continuity of the training stage and the number of micro-cycles (2-3 weeks for training for low level competitions and 5-6 weeks before major competitions) (Smolevskij, Gaverdovskij, 1999).

The bi-competitive training in artistic gymnastics involves the content of the means per two training levels within the same training session in pre- and competitive period, to participate in two competitions with different categories of classification (Potop, 2006).

The planning represents the activity of thorough and precise elaboration of the training and performance objectives, of the means, methods and forms of organization appropriate to the intended purposes, meant to be achieved in macro, mezzo and micro-cycles (Teodorescu, 2009).

In the analysis of the long-term plan there is a series of annual cycles, but in a relatively summary form meant to facilitate its achievement. In fact, the annual cycle is a comprehensive document, which is divided into several parts called periods, which, in their turn, are subdivided into stages. Such an organization inside the annual cycle provides a better division of the entire methodology for planning and coordinates the biological and time laws that operate in the process of accumulation of the training and competition potentialities. (Nicu, 1993).

When the coach makes a planning for training, he must respect a series of requirements that substantiate the training

process. These requirements are listed below (Niculescu, 2003):

- Correlation of the long-term plans with the current ones (mezzo-cycles, micro-cycles and lessons);
- Establishing and strengthening the main factor of training or definition of the crucial points of the training;
- The factors of training that remain behind the forecasts represent the weak links of the training;
- Regular implementation of plans;
- Creative activity of athletes and coaches as well;
- Control of the implementation of plans.

2. Purpose

The purpose of this study is to introduce the content of the bi-competitive training and the efficiency of this one on the increase of the capacity for performance in line with syllabus requirements for classification in women's artistic gymnastics.

3. Hypothesis

We believe that the optimization of the training by improving the category IV elements for each apparatus and by learning the technical elements needed to category III during the same training session will lead to the bi-competitive training in women's artistic gymnastics.

4. Methods of research

- Bibliographic study - theoretical documentation on the topic of the paper;
- Method of observation – monitoring gymnasts' performances during the training;
- Method of experiment: used to confirm or refute the hypothesis proposed.
- Statistical-mathematical method and plotting method: they were used to

calculate the main statistical indicators and to interpret the results of the study.

5. Contents of the research

The research was conducted over a period of bi-competitive training, during 4 micro-cycles, from 19.04.2010 to 14.06.2010, with a group of 4 junior female gymnasts of category IV and two gymnasts of category III, 9 to 12 years of age, selected from the entire group. This approach lead to the organization of a study in the Gymnastics Department of School Sports Club no.2 of Bucharest.

During the study conduct period we focused on the bi-competitive training for the National Championship for Children, Focșani 14-15.05.2010 and the National Team Championship for Juniors, Buzău, 18-20.06.2010.

6. Content of bi-competitive training means

The bi-competitive training was carried out along a period of 24 training sessions, each one containing 2 micro-cycles of 240 minutes per training session and 2 micro-cycles of 180 minutes, respectively.

Objectives of the training: improvement of category IV performances and learning of technical elements necessary for category III on each apparatus. Physical training: improvement or maintaining of the level of muscle strength development and specific joint mobility.

• Technical training:

- a.) Handspring vaults: improvement of forwards handspring and learning of Tsukahara vault with backwards tucked salto and a second spare vault: handspring with 180° twisting in first

- part and 180° twisting in the second part, vault performed in competition too.
- b.) Uneven bars: keeping the level of category IV training by performing the full routine and by learning the landing through double backwards tucked salto (with and without help), and the full routine for category III during the same training session.
- c.) Beam: improvement of category IV and III elements, focusing on the correctness of full routines execution.
- d.) Floor: improvement of acrobatic elements, learning of acrobatic elements: double backwards tucked tumbling and backwards stretched tumbling with 720° twisting.

Artistic training: improvement and correction of failed elements and of artistic

salto from the full routines on beam and floor.

The training contents on apparatus was the same, but structured in an individualized manner depending on gymnasts' training level, with variations according to the order of apparatus during the training session; the training was materialized in the number of reps, performed with and without help, appreciated with successful and unsuccessful attempts.

During the test training sessions, elements of category III were also performed on each apparatus depending on gymnasts' status.

7. Results

Table 1

*Results obtained at National Team Championship for Children,
14-15.05.2010, Focşani*









Place	Full name					Total score
I	Năstase Tania	12.755	13.250	13.275	13.150	52.400
	Nicolae Antonia	13.300	13.350	13.525	13.550	53.725
	Lungu Alina	13.550	13.500	13.400	13.500	53.950
	Mihai Alexandra	13.600	13.700	14.000	14.000	55.300
	Baciu Roxana	12.475	13.100	14.175	14.600	54.350
	Butuc Anda	12.688	14.375	14.400	14.475	55.938
Scoring on apparatus		65.863	68.175	69.500	70.125	273.663
Statistical indicators						
	Mean	13.06	13.54	13.87	13.9	54.27
	S.E.M.	0.196	0.186	0.19	0.24	0.51
	S.D.	0.48	0.455	0.48	0.61	1.24
	Coef. Var.	0.036	0.034	0.035	0.044	0.023

Table no. 1 presents the results obtained by junior female gymnasts IV of level 1 and 2 in the National Team Championship for Children, pointing out the individual performances on each apparatus, the total score at each apparatus, total score for

each gymnast, the team total score on apparatus and all-around score.

Table 2





Results obtained at National Championship for Children,
individual all-around, 14-15.05.2010, Focşani

Level Place	N.M.													Punctaj Total
		Vault 1	Vault 2	Highest score	A1	B	Final average	A1	B	Final average	A1	B	Final average	
I.1	M.A.	13.500	13.575	13.575	4.500	9.200	13.700	4.500	9.400	13.900	4.500	9.500	14.000	55.175
I.5	L.A.	13.500	13.550	13.550	4.500	9.000	13.500	4.500	8.800	13.300	4.500	9.00	13.500	53.850
I.6	N.A.	13.050	13.300	13.300	4.500	8.850	13.350	4.500	9.025	13.525	4.500	9.050	13.550	53.725
I.23	N.T.	12.550	12.725	12.725	4.500	8.750	13.250	4.500	8.775	13.275	4.500	8.650	13.150	52.400
		A1	B	Average of 2 vaults	A1	B	Final average	A1	B	Final average	A1	B	Final average	
II.2	B.A.	3.700	9.100	12.800	5.000	9.500	14.800	5.000	9.450	14.450	5.100	9.525	14.625	56.038
II.4	B.R.	3.700	8.775	12.475	4.500	8.500	13.100	5.000	9.175	14.175	5.100	9.500	14.600	54.350
Statistical indicators														
Mean				13.06			13.54			13.87			13.9	54.27
S.E.M.				0.19			0.186			0.19			0.24	0.51
S.D.				0.46			0.455			0.48			0.61	1.25
Coef. Var.				0.035			0.034			0.035			0.044	0.023

In table no. 2 are shown the results obtained by the junior gymnasts IV level 1 and 2 at the National Championship for Children, individual all-around, highlighting the requirements of the classification program on each apparatus and level of training through the points granted by Jury A1 (content of exercise and start value) and Jury B (execution).

Table 3





Results obtained at National Championship for Children, apparatus finals, 14-15.05.2010, Focşani

Level	Full name								
		Score	Place	Score	Place	Score	Place	Score	Place
I	Mihai Alexandra	13.600	1	13.700	1	14.400	1	14.400	1
I	Lungu Alina	13.550	5						
II	Butuc Anda			14.350	2	14.300	3	14.250	5
II	Baciu Roxana					14.200	4	14.175	7

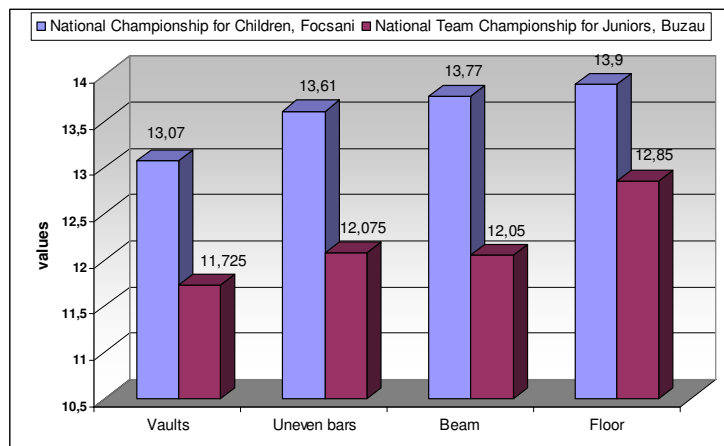
In table 3 are listed the results obtained by junior female gymnasts IV of level 1 and 2 at National Championship for Children, apparatus finals, in the second day of competition.

Table 4

Results obtained at National Team Championship for Juniors, 18-20.06.2010, Buzău

Place	Full name					Total
VI	Baciu Roxana	10.625	12.225	11.175	12.800	46.825
	Butuc Anda	11.025	13.225	13.400	13.250	50.900
	Neacşu Laura	12.700	11.550	11.500	12.050	47.800
	Butuc Roberta	12.550	11.300	12.125	13.300	49.275
	Total	46.900	48.300	48.200	51.400	194.800
Statistical indicators						
	Mean	11.725	12.075	12.05	12.85	48.7
	S.E.M.	0.52	0.43	0.49	0.89	0.88
	S.D.	1.05	0.86	0.98	0.57	1.77
	Coeff. Var.	0.08	0.07	0.081	0.045	0.036

In table no. 4 are shown the results obtained by junior female gymnasts IV of level 1 and 2 in the School National Championship, where was established, during a single evolution in competition, the team, individual all-around and apparatus finals ranking.



Graph 1. Results of bi-competitive training

In graph no. 1 are shown the results of the bi-competitive training achieved during the two competitions: National Championship for Children and Team National Championship for Juniors III, highlighting the performances on each apparatus.

8. Discussions

The study refers to a group of 6 gymnasts in bi-competitive training, belonging to the category Junior IV and III. The reason for which we decided to carry out this study was to reveal the competitive training of female junior gymnasts for the next category of classification.

The analysis of the contents of the means applied in the bi-competitive training of Juniors IV female gymnasts showed that the training was done to improve the technical elements of category IV, 1st and 2nd training level, and to learn some technical elements of higher difficulty required for category III on each apparatus.

Looking to physical training, the target was to improve or maintain the level of muscle strength and joint mobility development; the artistic training was achieved by improving and correcting the mistakes in the elements, vaults and artistic elements of the full routines on beam and floor.

The contents of the training on apparatus was the same, but structured in an individualized manner depending on gymnasts' training level; the order of apparatus during the training session varied and the training was materialized in the number of reps, performed with and without help, appreciated with successful and unsuccessful attempts.

During the test training sessions, besides the checking itself, depending on gymnasts' status, on each apparatus were also performed elements of category III.

Regarding the results achieved at the Team National Championship for Children, we notice a total score on apparatus with an average of 65.863 points for vaults, 68.175 points for uneven bars, 69.500 points for beam, 70.125 points on floor and a total score of the team of 273.663 points.

As for the results obtained at the National Championship for Children, individual all-round, it is highlighted an average of 13.06 points on vaults, where two vaults were made at level 1, scoring the best one, while at level 2 were executed two different vaults as per the syllabus, calculating the average of the two vaults; at uneven bars, the final average is 13.87 points, at level 1 the score A1 was 4.500 points and 5.00 points at level 2; at beam the final average is 13.87 points, the same start value A1 at level 1 – 4.500 points and 5.00 points at level 2; on floor,

the final average is 13.9 points, with the same start values at A1.

Regarding the results achieved at individual all-around, at level 1 the female gymnasts were awarded the places: 1, 5, 6 and 23 while at level 2 they got places 2 and 4. In the apparatus finals at the National Championship for Children, we notice the places 1 and 5 won at vaults; places 1 and 2 at uneven bars; places 1, 3 and 4 at beam; places 1, 5 and 7 on

Analyzing the results obtained at the floor.

Team National Championship - Juniors, where two gymnasts in bi-competitive training have competed, we notice the sixth place in the ranking list won with the team and the qualification of a gymnast for the Individual National Championship - Juniors held on 5-7.11.2010 in Bacău, where gymnast B.A. was awarded the first place at uneven bars.

The comparative analysis on gymnasts' participation in the two competitions highlights significant differences in the values of the scores on each apparatus, the scores being lower because the failure to fulfill all requirements for the classification category.

9. Conclusions and suggestions

The results of the study showed that these methodological guidelines can serve as effective training method for increasing capacity performance. Depending entirely on the competitive calendar, on gymnasts' training level and on the characteristics of competitive effort at various levels of training, this guidance is rarely seen in artistic gymnastics.

The bi-competitive training is achieved if the order of the contests by categories of classification allows the participation in both consecutive competitions, contributing to a more rapid transition from one training level to another, the accumulation of better competitive experiences and the improvement of the gymnasts' training content by learning elements of great difficulty necessary for the next category of classification.

The optimization of the training by improving the elements of category IV on each apparatus and by learning technical elements necessary for category III during the same training session leads to the bi-competitive training in women's artistic gymnastics.

The proper application of this form of competitive training should be utilized effectively in training only if we take into account the methodological aspects allowing us to use it.

References

1. Dragnea A., Mate-Teodorescu S.: *Theory of Sport*. Bucharest: "Fest" Publishing House, 2002, 241-244.
2. Dragnea, A.: *Sports Training*. Bucharest: Didactical and Pedagogical Publishing House, 1996, 321-.
3. Niculescu G.: *Artistic Gymnastics. Theoretical and Methodical Reference Points*. Bucharest: Arvin Press, 2003, 124-126.
4. Nicu A.: *Modern Sport Training*. Bucharest: "Editis" Publishing House, 1993, 434-
5. Potop V.: *Women's Artistic Gymnastics, Elements of Theory and Methods*. Bucharest: BREN Publishing House, 2008, 7.
6. Potop V.: *Motor Learning and Transfer in Performance Artistic Gymnastics*. Bucharest: "Bren" Publishing House, 2005, 44-48.
7. Potop V.: *Bi-competition Training Content in Women's Artistic Gymnastics*. Studia Universitatis Babeş-Bolyai, Educatio Artis Gymnasticae, Cluj – Napoca: Cluj University Press, 2006, 131-136.
8. Smolevskij V.M.: Gaverdovskij Ju.K.: *Sport Gymnastics*. Kiev: „Olimpijskaja literatura” Publishing House, 1999, 393.
9. Teodorescu S.: *Training and Competition*. Buzău: Alpha MDN Publishing House, 2009, 185.
10. Vieru N., *Manual of Sports Gymnastics*. "Driada" Publishing House, Bucharest, 1997, 79.

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