Performance Criteria in Aerobic Gymnastics – Impact on the Sportive Training

Mezei Marianna*, Cristea Orlando*

* National University of Physical Education and Sports, Constantin Noica, No 140, Bucharest, 060057, Romania

Abstract

The aerobic gymnastics, the newest sportive branch introduced by the International Gymnastics Federation in the official competitions, represents one of the sport branches where Romania was constantly recognized at international level, due to valuable technicians who permanently innovated the content of the training session, but also due to exceptional gymnasts, able to valorize their bio-motric potential and the accuracy of the execution. In the last years, as in other sportive branches, also aerobic gymnastics incurred changes in regulation with significant impacts on the content and dynamics of the exercises, as well as on the functional stress level caused by such exercises, all those transposing in coaching methods and contents addressing especially the targeted performance criteria.

Practice proved that in the last years, out of the three performance criteria, the Romanian sportsmen obtain high grades for Difficulty and Execution elements and low grades for Artistic element, which integrates the music and musicality, aerobic content, general content, use of space and artistic sub-criteria.

In such context, we aim to optimize the artistic coaching by using a wide range of bodily and musical techniques applied under functional stress conditions as closer to the actual competing functional stress conditions as possible.

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Keywords: difficulty criterion, execution criterion, artistic criterion;

1. Introduction

The aerobic gymnastics, the newest sportive branch introduced by the International Gymnastics Federation in the official competitions, represents one of the sport branches where Romania was constantly recognized at international level, due to valuable technicians who permanently innovated the content of the training session, but also due to exceptional gymnasts, able to valorize their bio-motric potential and the accuracy of the execution.
technique. With this regard, we want to mention the contribution of Marcela Fumea, Gabriel Popescu, Claudiu Varlam, Romanian coaches of international recognition, who, by their vision and tenacity, starting with ’95s, promoted this sportive branch at national level and contributed to the development of the aerobic gymnastics at world level, by their presence within the technical committees in IGF or by the insertion of some difficult technical elements in the Code of points.

During the last years, as other sport branches, also the aerobic gymnastics knows changes in the competition regulation, introduced pursuant the intention of the International Federation to include this sport among the Olympic Sport branches and to assign to it, evaluation and scoring criteria as objective as possible, by one side, and a higher difficulty and spectacular, by the other side. In such context, the above mentioned changes had impacts on the composition of the exercises, their dynamism and the functional workload of the athlete.

The set of biomechanical and functional characteristics of the technical content as well as the existence of the three performance criteria specified in the Code of points 2013-2016, make the aerobic gymnastics a very complex sportive branch, with major effects on designing the training process.

From the training process perspective most of the research studies are focused on two directions: the biomechanical emphasis which relates to technical skills and training and the physiological stress/costs demanded by the 1’30 specific effort in all the events (Schmidt and Lee, 2005; Willmore and Costill, 1998; Popescu, 2005; Dragnea and Teodorescu, 2002; Bota, Urzelă and Mezei, 2012).

The practical experience proved that in the last years, the Romanian athletes obtain high scores to the components difficulty and execution, out of the three performance criteria, receiving lower scores for the artistic criterion, which joins the following sub-criteria: music and musicality, aerobic content, general content, use of space and artistic.

We aim, by this work, to contribute to the optimization of the artistic training, by using a wide range of means and methods, some of them addressing the maximization of the athlete’s performance potential, etc., others addressing the improvement of the coach/choreographer’s capacity to create a valuable composition.

In such context, new working means and techniques, adapted to the Code of points’ requirements, are needed. A valuable exercise must meet requirements on selection of a theme and music fit for the exercise, choreography, relations and communication among partners, varied location in space, seeing the selected idea and proper expression of it. The gymnast, besides the technically correct execution of elements, must have a good artistic interpretation and an ability to communicate feelings, ideas in accordance with the musical background. To this end, the training content must address all the factors equally involved in obtaining high performance at international level.

2. Content

We hereinafter present the main aspects concerning the performance criteria as updated, followed by the effects of each of them on the training components.

According to the Code of points 2013-2016, „aerobic gymnastics is the ability to perform continuous, complex and high intensity aerobic movement patterns to music, which originate from traditional aerobic exercise: the routine must demonstrate continuous movement, flexibility, strength and the utilization of the seven basic steps, with perfectly executed difficulty elements. Combinations of basic aerobic steps together with arm movements will be all performed to music, to create dynamic, rhythmic and continuous sequence of high and low impact movement” (Code of Points FIG, 2013 – 2016).

From the artistic point of view, „all the components of the choreography must perfectly fit together in order to transform a sport exercise into an artistic performance, with creative and unique characteristics by respecting the specificity of aerobic gymnastics”.

Before detailing the sub-criteria corresponding to the artistic factor, we present, as an argument, some of the Referee Score Sheets relating to the Romanian gymnasts in high-level competitions, which clearly prove a lower
level for the artistic score and thus, the need for another approach with regard to the artistic training of those gymnasts (Tables 1 and 2).

Table 1. Results - Individul Man-Final

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Noc</th>
<th>Difficulty Score</th>
<th>Artistic Execution</th>
<th>Deductions Diff Line</th>
<th>Pen.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parejo Ivan</td>
<td>ESP 2</td>
<td>4.150</td>
<td>9.100</td>
<td>8.950</td>
<td></td>
<td>22.200</td>
</tr>
<tr>
<td>2</td>
<td>Zamfir Mircea</td>
<td>ROU1</td>
<td>4.150</td>
<td>8.750</td>
<td>8.750</td>
<td></td>
<td>21.650</td>
</tr>
<tr>
<td>3</td>
<td>Li Liangfa</td>
<td>CHN</td>
<td>4.100</td>
<td>8.700</td>
<td>8.800</td>
<td></td>
<td>21.600</td>
</tr>
<tr>
<td>3</td>
<td>Brinzea Mircea</td>
<td>ROU2</td>
<td>4.050</td>
<td>8.750</td>
<td>8.800</td>
<td></td>
<td>21.600</td>
</tr>
<tr>
<td>5</td>
<td>Decker-Breitel Maxime</td>
<td>FRA2</td>
<td>3.850</td>
<td>8.750</td>
<td>8.700</td>
<td></td>
<td>21.300</td>
</tr>
<tr>
<td>6</td>
<td>Pagliuca Emanuele</td>
<td>ITA2</td>
<td>3.900</td>
<td>8.450</td>
<td>8.450</td>
<td></td>
<td>20.800</td>
</tr>
<tr>
<td>7</td>
<td>Garavel Benjamin</td>
<td>FRA1</td>
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<td>8.850</td>
<td>8.700</td>
<td>0.500</td>
<td>20.750</td>
</tr>
<tr>
<td>8</td>
<td>Lli Lloris Vicente</td>
<td>ESP1</td>
<td>3.650</td>
<td>8.600</td>
<td>8.200</td>
<td></td>
<td>20.450</td>
</tr>
</tbody>
</table>

Table 2. Results -Mixed Pair-Final

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Noc</th>
<th>Difficulty Score</th>
<th>Artistic Execution</th>
<th>Deductions Diff Line</th>
<th>Pen.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Romania</td>
<td>ROU2</td>
<td>4.100</td>
<td>8.750</td>
<td>8.800</td>
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<td>21.650</td>
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<tr>
<td>2</td>
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<td>SPA</td>
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<td>9.050</td>
<td>8.550</td>
<td></td>
<td>21.650</td>
</tr>
<tr>
<td>3</td>
<td>Russia</td>
<td>RUS1</td>
<td>4.000</td>
<td>8.900</td>
<td>8.650</td>
<td></td>
<td>21.550</td>
</tr>
<tr>
<td>4</td>
<td>China</td>
<td>CHN2</td>
<td>4.250</td>
<td>8.600</td>
<td>8.600</td>
<td></td>
<td>21.450</td>
</tr>
<tr>
<td>5</td>
<td>Russia</td>
<td>RUS2</td>
<td>3.800</td>
<td>8.650</td>
<td>8.550</td>
<td></td>
<td>21.000</td>
</tr>
<tr>
<td>6</td>
<td>France</td>
<td>FRA2</td>
<td>3.750</td>
<td>8.900</td>
<td>8.300</td>
<td></td>
<td>20.950</td>
</tr>
<tr>
<td>7</td>
<td>Vietnam</td>
<td>VIE</td>
<td>3.550</td>
<td>8.900</td>
<td>8.400</td>
<td></td>
<td>20.850</td>
</tr>
</tbody>
</table>

Having in mind these results, let us review what can we do in terms of training the following artistic subcriteria:

2.1. Music and musicality

The idea, according to which a physical, body-expression exercise must take on the aspect of an artistic performance, should restructure the entire training concept, by taking over expression means and techniques belonging to the art area. The fact that use of any musical style is allowed, as adapted to the aerobic gymnastics, creates premises of an almost unlimited range of different expression means reflecting the features and individual style of the gymnast, by one side, and the elements special for this sport, by the other side.
A musically inspired selection (involving dynamism, variety, originality, complete musical phrases and possibility to identify the tempo and rhythm) will put forward the exercise theme, emphasizing its structure, the difficult elements, the choreographic concept and the artistic skills of the competitor. In order to have correct sets of aerobic movement patterns, the music should have 8 counts structure, fact which helps judges recognize the AMP sequences.

Another sub-criterion refers to musicality as expression of the gymnast ability to interpret music in a proper manner but, at the same time, a personal one. At this scoring section, the gymnast must put forward the body expressivity and plasticity for which complementary training contents must be designed. To this end, during the competing exercise, the body expression will be reflected in dynamic and tonic activities, as the tonic activity is seen in the ability of the gymnast to keep the different positions viewed as static elements, while the dynamic activity is seen during the sequences of steps, in both cases the tonic adjustments of the musculature giving plasticity, harmony, power of expression and communication to the movements.

2.2. Impacts on the sportive training

One of the important components of training in this sport branch, many times neglected, is represented by the artistic part concretized also in the gymnasts’ knowledge on some musical theory elements, strictly mandatory to meet the Music and musicality arbitrage criterion.

The gymnast is not only a strict performer of the exercise, but also an "artist", able to communicate the musical theme, the music nature, precisely by a very good understanding and appropriation of it. Thus, an aerobic gymnastics exercise not only meets the difficulty and execution accuracy criteria, but also gets cultural connotations and valences which give a much deeper sense to the message of this sport.

Although learning, consolidation and refinement of an exercise require significant amounts of training, the coach must allocate some training classes in the training schedule established for the gymnast, by which the gymnast will be put out of the daily common practices, the coach trying to familiarize him/her with aspects regarding the manner in which the musical background can maximize his/her performance.

To ensure gymnasts know different notions of musical theory, the following working methods can be conceived:

- Musical auditions on different themes (classic music from different periods, made by different composers, as well as modern music of different types/styles, etc). Gymnasts shall analyze and express their opinions related to the manner in which they feel the music and its message as they identify it. Inclusion of such classes can lead to the formation of the taste for certain musical types, in the context of a musical culture well consolidated;
- As exercise, selection, by the gymnasts, of some preferred musical compositions, as wished musical background for their exercises. In this manner, the coach can know the gymnast’s musical preferences, which, subsequently, he/she can include in the final musical selection intended to the competing exercise;
- Forming, by the gymnasts, of musical themes as varied as possible in terms of musical notes, so that the gymnasts could reach the ability to identify and reproduce in different manners, the varied rhythms and their changes.

3. Aerobic content

The essential element of this sub-criterion is defined by the aerobic movement patterns (“AMP”).
3.1. Impacts on the sportive training

The aerobic content gives specificity to this sport, for this reason being given a great attention to it, both by the coach and by the gymnast. For sure, meeting the complexity/variety and creativity criteria is the responsibility of the coach, who must imagine sequences of steps and arm movements with a high value potential, while meeting the intensity criterion is the responsibility of the gymnast, who can less or more involve from functional and psychological standpoints. Taking into consideration the fact that the regulation provides for the inclusion of three different basic steps, without repeating same step more than two times, within an eight-time musical phrase, the coach is compelled to be creative, also by:

- creating sequences of distinct steps on same musical phrases (4x8 or 6x8), keeping certain characteristics of them as provided for the Code of points;
- creating sequences of steps to be executed through rhythm changes, respectively, to be „doubled”, on same musical phrases (4x8 or 6x8), fact which determines a greater variety of the movements, by one side, as well as the increase of the workload in the high impact area, by the other side;
- creating structures of different steps and arm movements, according to the music nature. This exercise stimulates the coach inventiveness and, equally, the gymnast’s execution ability.

4. General content

This sub-criterion is more complex because it relates to the entire exercise composition, its map including the chaining of the difficulty's technical elements, the joining of the workload levels (low, medium, high), as well as the interaction, partnership and construction elements. The entire composition of the exercise must be well shaped, harmonious in terms of observing the fair proportion among all the components established in the Code of points.

4.2. Impacts on the sportive training

To create valuable compositions, several working methods can be identified:
- Taking over some transition/linking elements from different dance forms (contemporary, folkloric, hip-hop, tribal, etc.);
- Taking over some technical elements from the circus art, to design the significant spectacular structures which joint different positions at the base and on the top, change of position at the base and on the top and varied number of gymnasts at the base for each lifting structure;
- Identifying the resources needed by the gymnast to perfectly express the entire composition in terms of fluency, expression of the rhythm modulations and impact elements which must attract the judge panel and general public attention. To this end, the gymnast must have the physical, technical and psychical support required to "build" an artistic creation with his/her own body. To create the gymnast’s easiness and comfort in movement sensation, the coach shall design from the pre-competing stage, workload amounts and intensities proper for a specific resistance increase, by approaching the halves of the integral exercise, the artistic exercises (halves or integral), the exercises with arm movements or with sequences of steps only.

4.2. Use of the space

In application of this criterion, the referees evaluate the gymnasts’ movements in the contest space, by using the aerobic movement patterns, (steps forward, backward, lateral, on diagonal, circular, on short or long trajectories, without repeating them), the distribution and balance of the composing elements both spatially and temporally. All three levels (floor-work, standing and airborne) of the competition space must be used.
Another sub-criterion is represented by the work groups, for which the positions and locations of the gymnasts, as well as the interchanges among groups, during the aerobic movement patterns will be evaluated. The originality and complexity of these elements create the premises for obtaining high scores for this criterion.

4.3. Impacts on the sportive training

The training content shall ensure the perfect awareness by the gymnast, of the work space (10 m x 10 m) and of the options to dosage the effort in view of supporting the workload throughout the entire exercise (1 minute and 30 seconds).

In order to develop the spatial-temporal orientation ability, in the classes shall be included exercises of the following types:

- Execution of a structure of steps in 2x8 times with movement on different directions, on straight line or on circular curve, with focus on keeping the correct biomechanical characteristics of each step;
- Execution of some structures of steps on different distances in order to get the ability to control the magnitude, the contraction strength and, implicitly, to functionally exert at different levels;
- Execution of transition and linking elements mixed with structures of steps by which the gymnasts get the easiness to alternate the floor elements with the air-bone or standing elements.

5. Artistry

This criterion represents a gymnast’s ability to make an artistic performance from a typical routine. This implies three aspects: quality, expression and partnership.

5.1. Impacts on the sportive training

In aerobic gymnastics, education of the artistic side, respectively the body expressiveness and the use of non-verbal language will have rules as strict as those for the verbal communication if it is not wanted the vulgarization of those elements or the raw manipulation of the viewers’ feelings. It is important that gymnasts, by special means, could get both execution competence and creative competence. Obviously, when it comes on the artistic criterion, this can not be dissociated from the talent of the coach or choreographer directly responsible for the creation act.

To this end, it can be included in the training classes, the following means:

- Exercises transposing the gymnast in different roles to create his/her emotional versatility and, equally, the body expression ability;
- Body expression exercises, by using neutral masks, the gymnast having the obligation to transmit messages only by stressing and relaxing different muscular and segmental groups;
- To create homogeneity in the couple, trio and group exercises, finding partners compatible from physical, motor, artistic, psychic-emotional standpoints, by one side, and keeping as much as possible the partnership structure during the competition trials to facilitate the communication and empathy among gymnasts will be tried.

6. Conclusions

The exceptional results obtained by the Romanian gymnasts in the international competitions of the last years are mainly due to the scores granted as evaluation of difficulty and execution criteria.

The remarkable technical ability level of the Romanian gymnasts made the difference between their exercises and the exercises of the other competitors despite the fact that the later ones obtained higher scores as evaluation of the artistic criterion.
In the context of change of generation, stronger and stronger competitions and increase of the number of candidates to a medal, the strategy for training the National aerobic gymnastics team must address better the artistic factor, in order to bring this one at the level of the other two criteria.

To put forward the artistic criterion among senior gymnasts, it is required an intensive care for training the skills of the children and junior gymnasts which make possible the full expression of the exercise contents, their execution with easiness and pleasure, their feeling at an emotional intensity level able to impress the referees and the viewers.

In the training schedule, all the 5 artistic sub-criteria must be equally addressed, allocating them enough training time to obtain quantitative accumulations to gymnasts able to lead to quality changes, especially because such changes equally involve the physical factor, the psychic factor and the emotional factor.

References