

## THE IMPORTANCE OF CLASSICAL BALLET ELEMENTS IN TEACHING D GROUP-SPECIFIC TECHNICAL ELEMENTS IN AEROBIC SPORT

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**Abstract:** The present research aimed to identify multiple means of action in the field of aerobic sport to facilitate the acquisition of D group-specific difficulty elements. In order to simplify the methodical procedures required for teaching said elements, we employed various classical ballet, wall-mounted barre and center elements. **Materials and Methods.** The experiment was conducted with the help of a group of 12 athletes from an aerobics club in Craiova and included 8 operational programs focusing on the main characteristics of the difficulty elements at issue. **Results.** The suggested means of action proved to be effective, as the practice routines were fully embraced and cheerfully carried out by the athletes. **Conclusions.** The means established for the choreographic training contributed not only to the achievement of particular movements that accounted for expressivity and correctness, but also to the improvement of certain performance indices.

**Keywords:** *ballet, difficulty, aerobic sport*

### Introduction

Aerobic gymnastics is a sport with unparalleled structure that comprises sets of movements categorized by difficulty levels, harmoniously combining music with specific steps and gymnastics routines [1].

Aerobic sport is a competitive sport that addresses and nowadays appeals to many sports enthusiasts. It stands out as a unique blend of aerobic choreography and various elements of gymnastics. Much of the popularity and appeal behind this sport owes to its holistic nature, as it encapsulates a broad universe of artistic and intellectual prowess. Aerobic sport harmoniously intertwines functional esthetics with the artistic beauty of the human form and the overall experience of beauty that unfolds during practice. Its core movement patterns are combinations of steps derived from basic aerobic dance which, when synchronized to music, serve to achieve the artistic depiction of a melodic theme or musical idea by merging dynamicity with rhythmicity, continuity and low-to-high levels of physical intensity. [2] Competing in this sport poses fewer risks than traditional gymnastics, whereas the artistic qualities and the satisfactions of aerobic exercise are fully preserved. Aerobic gymnastics, one of the world's youngest and most rapidly expanding gymnastic sports, is primarily defined as an aesthetic-technical discipline. [3]

According to its Code of Points, aerobic gymnastics is "... the ability to perform complex, high-intensity, rhythmical movements stemming from traditional aerobic dance. Its specific figures

*should demonstrate continuous flow of motion, flexibility, strength and employment of seven high-difficulty fundamental steps" [4].*

Difficulty is an important criterion in assessing and tie-breaking figures that are specific to competitive aerobic gymnastics. Difficulty elements serve as means of challenging, as well as attesting the acquisition of targeted physical qualities and strings of movements [5].

Athletes are allowed to perform a maximum number of 12 difficulty elements, which should be harmoniously selected from all the four groups specified in the Code of Points: group A – Dynamic Strength; group B – Static Strength; group C – Jumps and Leaps; group D – Balance and Flexibility.

Elements specific to difficulty group D should exhibit elasticity and suppleness while accounting for the following general requirements:

- Correct alignment of joints and body segments;
- Easily recognizable body postures;
- Fully stretched legs and feet;
- Full completion of elements involving various turns;
- As part of most elements, maintaining middle splits at full range over the entire motion.

Artistic training is a "special component of practice that helps ensure the physical and mental support needed to accomplish the intended movements in a personal style and in compliance with the technical, artistic and expressiveness indices established by a particular sport" [6], which includes the following subcomponents: dance

training, expression and communication training, visual arts and music education, artistic creativity and specialized training specific to each individual branch of competitive gymnastics.

Competitive aerobic gymnastics practice sessions have always accounted for this factor during training in the form of choreographic exercises, not necessarily to draw attention to its importance, but rather out of the need to provide specialized training in this particular area as well.

Fundamental artistic training for children comprises exercises borrowed from classical ballet. It is preferable not to insist on refining the athletes' technique, since the goal here is to train gymnasts, not ballet dancers and it is advisable that the choreographic training be supplemented by physical training aimed specifically at reinforcing neuromuscular coordination.

The choice of performable moves includes pliés, battement tendus, relevés sur demi pointe, ronds de jambe, ports de bras, pirouettes, jumps (sautés, assemblés, sissonnés), body waves and swings.

#### Method

The present paper proposes means of action for teaching elements specific to difficulty group D in compliance with the Code of Points, knowing that the artistic training in aerobic gymnastics is accomplished by employing a combination of elements derived from dance, classical ballet and other branches of gymnastics.

Starting from the purpose of the present research, we outlined the following hypotheses:

- Assessing the efficiency of the established means with respect to achieving progress in performing elements from the difficulty group D;

- Measuring the impact of the established means on movement amplitude, direction and precision, as well as general movement characteristics in compliance with the current guidelines for technical precision and expressiveness of motion.

In order to carry out the present research, we chose a group of 12 gymnasts (female, aged 9-11 years) from *Palatul Copiilor* in Craiova, who had been practicing aerobic sports for 2-4 years.

At the beginning of the school year, the athletes had to take an anteroposterior mobility trial and were submitted to the Matorin test (to determine their overall coordination levels). Moreover, we assessed and marked according to the Code of Points a number of 3 elements from group D of difficulty, allocating 2 points for correct execution and 0 points for faulty execution.

The work programs presented below were implemented for a total of 6 weeks during the pre-competitive period. The subjects of our research were tested both prior to and following the

implementation of the training programs. The parents/guardians of the subjects consented to their children taking part in the experiment, which commenced upon receiving approval by the institution. The statistical data were processed and interpreted through the SPSS v.21 program. In order to validate the work programs, we employed the Paired T Test to check whether the difference of the averages was statistically significant.

#### *Example of an operational model at the wall bar I*

- 1) Facing the ballet bar while gripping it with both hands, fixing the foot positions while maintaining 8T in each position;
- 2) Facing the ballet bar while gripping it with both hands: 1-4 - maintaining foot position I; 5-8 - relevé. Repetition of the exercise for foot positions II; III; IV; V;
- 3) Facing the ballet bar: practicing the arm positions while maintaining 8T in each position;
- 4) Facing the ballet bar while gripping it with both hands: 1-4 - demi plié; 5-6 - left foot battement tendu; 7-8 - right foot battement tendu;
- 5) Standing with the left shoulder facing the bar while gripping the bar with the hand on the same side and holding the right hand on the right hip: 1-4 - rond de jambe; 5-6 - forward grand battement; 7-8 - side grand battement;
- 6) Standing with the right shoulder facing the bar while gripping the bar with the hand on the same side and holding the left hand on the left hip: 1-4 - rond de jambe; 5-6 - forward grand battement; 7-8 - side grand battement;

#### *Example of an operational model at the wall bar II*

- 1) Standing in position II facing the bar while gripping it with both hands: 1-2 - bending the knees to a 90° angle (demi plié); 3-4 - rebound;
- 2) Standing in position I facing the bar while gripping it with both hands: 1 - sliding the right foot sideways while resting on the tiptoes (battement tendu); 2 - rebound; 3-4 - repetition of movements from tempi 1-2; 5-8 the same for the left foot;
- 3) Standing in position I facing the bar while gripping it with both hands: 1- bending the right knee sideways with the toe tips touching the left calf (passé); 2 - rebound; 3-4 - repetition of movements from tempi 1-2; 5-8 the same for the left foot;
- 4) Standing in position II with the left shoulder facing the bar while gripping the bar with the hand on the same side and the right arm held sideways: 1 - lifting the right arm sideways to a round posture; 2 - bending the torso sideways to the left;

3 – rebound with the torso upright and holding the arm upwards in a round posture; 4 – lowering the arm sideways; 5 – lowering the right arm to a rounded posture; 6 - bending the torso sideways to the right; 7 – rebound with the torso upright and holding the arm downwards in a round posture; 8 – raising the arm sideways;

5) Standing with the left shoulder facing the bar while gripping the bar with the hand on the same side and the right hand placed on the right hip: 1 – lifting the stretched right leg forwards; 2 – rebound; 3-4 – the same movement from tempi 1-2; 5 – lifting the stretched right leg backwards; 6 – rebound; 7-8 repetition of movements from tempi 5-6;

6) Facing the ballet bar while gripping it with both hands: 1-4 – four short springs (ball-like bounces) on the right foot while holding the left knee lifted forwards with the toe tips of the left foot touching the right calf; 5-8 – the same movements for the left foot.

*Example of an operational model for building flexibility*

1) Standing with the left shoulder facing the bar while gripping the bar with the hand on the same side and the right hand resting on the right hip: 1-2 – forward grand battement on the right foot; 3-4 - side grand battement; 5-6 – backward grand battement; 7-8 – side grand battement;

2) Repetition of the same exercise for the left foot;

3) Facing point 1 with the arms held sideways: 1-4 – forward steps with side grand battement; 5-8 – backward steps with side grand battement;

4) Facing point 1 with the arms held sideways: 1- forward step on the right foot ; 2 – forward swing on the left foot; 3 – rebound; 4-5 – backward swing of the right foot while bending the torso and resting the palms on the ground; 6 – rebound to standing position; 7 – straddle jump; 8 – rebound to the initial position;

5) Repetition of the same exercise for the left foot;

6) Lying on the ground: 1-2 – forward swinging of the left foot; 3-4 – forward swinging of the right foot; 5 – lifting the legs to a 90° angle;

6 – spreading the legs in middle splits; 7 – rebound; 8 – lowering the legs.

*Example of an operational model for improving balance*

1) Standing in position II facing the bar while gripping it with both hands: 1-2 – bending the knees to a 90° angle (demi plié); 3-4 – tiptoe raises; 5-8 – repetition of the movements;

2) Standing in position II facing the bar while gripping it with both hands: 1-2 – bending the knees to a 90° angle (demi plié); 3-4 – tiptoe raises with side lifting of the left knee; 5-6 – bending the knees at a 90° angle; 7-8 – tiptoe raises with side lifting of the right knee;

3) Diagonally, with arms raised sideways: toe walking with alternate leg raises every third step;

4) Facing point 1 with hands placed on the hips: 1 – lifting the right leg forward while resting on the toes; 2 – rebound; 3 – swinging the right leg forward to a 45° angle; 4 – rebound; 5 – swinging the right leg backwards at a 45° angle; 6 – rebound; 7 – swinging the right leg forwards over 90°; 8 – rebound to the initial position.

5) Repetition of the exercise for the left leg;

6) Facing point 1: 1-2 – forward step on the right foot while lifting the left leg forward horizontally with forward raises of the arms in a rounded posture; 3-4 – lowering the arms sideways while maintaining the previous position of the leg; 5-8 – the same for the other leg.

*Example of an operational model for pirouettes*

1) Facing the ballet bar while gripping it with both hands, legs held in position IV: 1-4 – demi plié; 5-6 – relevé; 7-8 – forward passé on the back leg.

2) Repetition of the same exercise for the other leg;

3) Facing point 1 with arms held sideways: 1-4 – stride; 5-6 – step turn; 7-8 – stride;

4) Facing point 1 with arms held sideways: 1-4 – stride; 5-6 – tiptoe turn; 7-8 – stride;

5) Diagonally: successive execution of 360° pirouettes clockwise;

6) Repetition of the same exercise anticlockwise.

Table no.1 Recordings for the Matorin trial

Crt. no.	Name and Surname	Ti right	Tf right	Ti left	Tf left
1	A.L.	270 <sup>0</sup>	330 <sup>0</sup>	400 <sup>0</sup>	480 <sup>0</sup>
2	B.A.	360 <sup>0</sup>	400 <sup>0</sup>	360 <sup>0</sup>	390 <sup>0</sup>
3	C.I.	310 <sup>0</sup>	360 <sup>0</sup>	350 <sup>0</sup>	440 <sup>0</sup>
4	C.M.	470 <sup>0</sup>	520 <sup>0</sup>	330 <sup>0</sup>	360 <sup>0</sup>
5	D.R.	360 <sup>0</sup>	410 <sup>0</sup>	380 <sup>0</sup>	460 <sup>0</sup>
6	G.C.	420 <sup>0</sup>	460 <sup>0</sup>	400 <sup>0</sup>	500 <sup>0</sup>
7	L.A.	290 <sup>0</sup>	360 <sup>0</sup>	520 <sup>0</sup>	540 <sup>0</sup>
8	M.M.	540 <sup>0</sup>	580 <sup>0</sup>	430 <sup>0</sup>	470 <sup>0</sup>
9	N.R.	500 <sup>0</sup>	540 <sup>0</sup>	540 <sup>0</sup>	600 <sup>0</sup>
10	R.S.	380 <sup>0</sup>	430 <sup>0</sup>	360 <sup>0</sup>	410 <sup>0</sup>
11	S.B.	420 <sup>0</sup>	470 <sup>0</sup>	400 <sup>0</sup>	450 <sup>0</sup>
12	T.A.	450 <sup>0</sup>	480 <sup>0</sup>	540 <sup>0</sup>	560 <sup>0</sup>
Mean		397,5 <sup>0</sup>	445 <sup>0</sup>	417,5 <sup>0</sup>	471,7 <sup>0</sup>
STDV		84,43	77,51	74,96	70,30
Min value		270	330	330	360
Max value		540	580	540	600
T		-15,59		-6,73	
Sig. (2-tailed)		.000		.000	

Table no.2 Recordings for the Anteroposterior Mobility trial

Crt. no.	Name and Surname	Anteroposterior Mobility		
		Ti	Tf	Dif
1	A.L.	+ 10	+ 13	+ 3
2	B.A.	+ 4	+ 10	+ 6
3	C.I.	+ 15	+ 19	+ 4
4	C.M.	+ 9	+ 16	+ 7
5	D.R.	+ 12	+ 15	+ 3
6	G.C.	+ 21	+ 25	+ 4
7	L.A.	+ 15	+ 21	+ 6
8	M.M.	+ 2	+ 10	+ 8
9	N.R.	+ 5	+ 12	+ 7
10	R.S.	+ 14	+ 20	+ 6
11	S.B.	+ 10	+ 17	+ 7
12	T.A.	+ 7	+ 13	+ 6
Mean		+ 10,33	+ 15,91	+ 5,6
STDV		5,43	4,66	
Min value		2	21	
Max value		10	25	
T		-11.537		
Sig. (2-tailed)		.000		

Table no.3 Recordings obtained for the elements in group D

Crt. no.	Name and Surname	1 ½ turn		Vertical split		Illusion	
		Ti	Tf	Ti	Tf	Ti	Tf
1	A.L.	0	0	0	2	0	2
2	B.A.	2	2	0	2	2	2
3	C.I.	0	2	0	2	0	0
4	C.M.	2	2	2	2	2	2
5	D.R.	2	2	0	2	2	2
6	G.C.	2	2	2	2	2	2

7	L.A.	0	2	2	2	0	2
8	M.M.	2	2	2	2	2	2
9	N.R.	2	2	0	0	0	2
10	R.S.	0	2	0	2	2	2
11	S.B.	2	2	2	2	0	0
12	T.A.	0	2	2	2	2	2
Mean		1.16	1.83	1	1.83	1.17	1.66
STDV		1.02	.58	1.04	.57	1.02	.77
T		-2,34		-2.80		-1.91	
Sig. (2-tailed)		.03		.01		.08	

## Discussions and Conclusions

Upon analyzing the data obtained at the Matorin spatial-temporal orientation test, we observed a significant increase in the performances of the athletes from the initial to the final testing, in terms of both clockwise (11.9%) and anticlockwise turns (13%). On the clockwise turns, the amplitude of the string decreased from 2700 (Ti) to 2500 (Tf), which suggests a homogenization of the performances around the arithmetic mean, whereas on the anticlockwise turns, which were overall preferred by the gymnasts, the amplitude registered a statistically significant increase ( $p < 0.05$ ).

The Anteroposterior Mobility test saw the most spectacular increase between the initial (+ 10.33) and the final testing (+ 15.91), accounting for 54.3%.

This is not at all surprising, considering that all the premises necessary for optimal development of this motor capacity are present at this age. Therefore, the proposed means of action, namely the elements specific to classical ballet, fully contributed to achieving these performances.

The last trial followed the technical execution of 3 important elements of the difficulty group D in the Code of Points. The low values obtained by some athletes at the Matorin test owed to wrong execution of elements involving turns. Athletes who demonstrated excellent mobility performed the vertical splits and Illusion elements with great ease. A notable fact is that some of the athletes succeeded in correcting their performances in the final tests, which shows that the means we employed were effective in achieving the targeted goals. Despite the athletes' improvement of their technical performance, the Illusion elements were not statistically significant ( $p > 0.05$ ).

It is essential to develop the motor abilities through specific and nonspecific means, since aerobic gymnastics is a sport with high technical demands that requires specific characteristics from

gymnasts: anaerobic endurance, strength, explosive power and flexibility [7,8].

Thus, artistic training in aerobic sport is vital at any level of performance, which is why even the best teams in the world place a strong focus on choreographic components in their competitive programs [9].

Upon completing the experiment, we can draw the following conclusions:

- Practicing the sport at question at this age group requires, in addition to general motility development, setting a solid foundation for artistic movement by educating the artistic posture and performance, as well as the ability to acknowledge and convey through movement all the particularities of form and content of the musical accompaniment.

- The choreographic training means employed in our experiment led to an optimization of the artistic training of the athletes with direct impact on improving technique and movement range, the progress registered thus confirming the hypothesis of our research.

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## References

- [1]. Mehrtash M., Rohani H., Farzaneh E., Nasiri R. (2015). The Effects of 6 Months Specific Aerobic Gymnastic Training on Motor Abilities in 10-12 Years Old Boys. *Science Of Gymnastics Journal* 7(1):51-60
- [2]. Dobrescu, T., Dobreci, D., (2014), Contributions Regarding the Learning of the Specific Motor Content of Artistic Training in The Aerobic Gymnastics, *Procedia - Social And Behavioral Sciences* 137: 25-31
- [3]. Kyselovicova O. & Danielova K. (2012). The functional response to training and competition load in aerobic gymnastics athletes. *Acta Facultatis Physicae Universitatis Comenianae* LII/II: 31-36

[4] FIG, Cod de punctaj, 2017-2020 / accessed on 10th October, 2019

[http://www.fig-gymnastics.com/publicdir/rules/files/aer/AER\\_CoP\\_2017-2020-e\\_January\\_2017.pdf](http://www.fig-gymnastics.com/publicdir/rules/files/aer/AER_CoP_2017-2020-e_January_2017.pdf)

[5] Mezei, M., Cristea, O., (2014), Performance Criteria in Aerobic Gymnastics – Impact on the Sportive Training, *Procedia - Social and Behavioral Sciences* 117, pp 367-373

[6] Grigore, V., (2002), *Pregătirea artistică în gimnastica de performanță*, ANEFS

[7]. Lopez J, Vernetta M, de la Cruz JC. (1999). Características morfológicas y funcionales del aeróbic deportivo. *Apunts*; 55:60-5.

[8]. Torrents C, Peralta M, Marina M, Balagué N. (1999). *Valoración de la fuerza del tren inferior aplicada al salto y de la fuerza del tren superior aplicada a las flexiones en gimnastas e instructores de aeróbic*. 4art Congrés de les ciències de l'esport, l'educació física i la recreació del'INEFC de Lleida Lleida: INEFC

[9]. Briskin Y., Todorova V., Perederiy A., Pityn M. (2016). Comparative analysis of choreographic training of athletes from foreign and Ukrainian sport aerobics teams. *Journal of Physical Education and Sport*; 16(4): 1352-1356