

Comparative analysis of choreographic training of athletes from foreign and Ukrainian sport aerobics teams

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Abstract:

Aerobic gymnastics or Sport Aerobics is a competitive sport originating from traditional aerobics in which complex, high-intensity movement patterns and elements of varying difficulty are performed to music. Object: To compare the choreographic training of athletes of Ukrainian team and the best teams in the world. Materials and Methods: videos competitive programs, the method of expert evaluations; methods of mathematical statistics. Results: the level of choreographic training of athletes in sport aerobics has been determined on the basis of the developed quantitative scale of criteria for competitive programs performance (competition rules 2013-2016.) teams participating Aerobic Gymnastics World Championships (June, 2016). Conclusion: The quantitative scale of criteria for choreographic training assessment in sport aerobics has been developed; the level of choreographic training of Ukrainian sportsmen has been determined as "average level" (0,44-0,52), while the best teams of the world are "high" and "above average" level (0,62-0,70); established that the choreography of the national team of France can be considered as standard in 2016.

Key words: competitive program, choreographic training, criteria, technic of execution.

Introduction

Aerobic gymnastics or Sport Aerobics is a competitive sport originating from traditional aerobics in which complex, high-intensity movement patterns and elements of varying difficulty are performed to music (Lutsenko L. S., 2002; Kyzim P. M., 2016). In addition to aerobics, it combines elements of acrobatic gymnastics, rhythmic gymnastics and oftentimes artistic gymnastics along with music, dance and choreography (Pozdeeva E. A., 2008; Sosina V. Yu., 2009; Todorova V. H., 2016). However, sport aerobics has its own specific characteristics, namely: rapid sport performance, complex coordination, clarity, sudden, expressive performance, etc. It is necessary to provide training and competitive activity by scientifically established data and methodological recommendations taking into account the peculiarities of above sport (Pityn M., 2013). Method of analysis, construction and improvement of choreography is one of important aspect of the scientific and methodological direction. Due to the fact that the recent trend in the development of this sport is to increase the level of performance, as a result, the role of choreographic training of athletes in the sport is being increased (Briskin Y., 2014; Romanchyshyn O., 2015).

Work connection with scientific programs, plans, themes. The work was carried out in accordance with research topic "Theoretical-methodical bases of management by training process and competitive activity in the Olympic, professional and adaptive sport" and in accordance with the plan of LSUPC for 2016-2020 (state registration № 0116U003167). The aim of the work is the comparison of choreographic training of athletes of national team of Ukraine and the best teams in the world.

Aim of the research

To make a quantitative assessment of the choreographic competition of the top teams participating in the Sports Aerobics World Championship (2016) and the national team of Ukraine.

Materials and methods

There were used videos of competitive programs of athletes - participants of Sports Aerobics World Championship (2016) for quantitative analysis of choreographic training, the method of expert evaluation; methods of mathematical statistics in order to determine the level of choreographic training of athletes.

Results

Our study is based on comparative analysis of competitive programs of the best teams in the world and Ukrainian sports aerobics team. In 2016 in Incheon (South Korea) 14-th Aerobic Gymnastics world championship was organized, more than 300 participants from 41 countries were participants, the national team

of Ukraine (12 person - 9 girls and 3 boys) took part at championship. The best result – Ukraine holds seventh place in the final of step aerobics.

Head coach of the national team of Ukraine, Atamanyuk S.I. said “The competing was quite high this year”. The coach believes that the Asian teams (China, Korea, Japan) are leaders in world sports aerobics, but Champions of the world (step aerobics) became sportsmen from France. The main hopes of Ukrainian team are connected with step aerobics - minimum aim was to get into the top 6 best teams in the world and obtain a license at the world Games, will be held in Poland I 2017. However, the Ukrainian team in the final lost in the level of choreographic training of the six previous teams.

Choreographic training of gymnasts, according to the international rules sports aerobics, consists of two components: the "artistry" and "execution". All components of the choreography must be well combined together to turn them into artistic athletic performance, done with the creative and exceptional characteristics, consistent with the specificity of aerobic gymnastics. (*Aerobics; Khimenes K., 2016*). Therefore, we took common scheme of choreographic training in SA, where "artistry" is represented by 5 components: the "music and musicality", "aerobic content", "common content", "the use of recreation area", and "artistic quality". The exercise has two components: "technical skills" and "elements of difficulty". Each of the selected components is estimated maximally at 2 points.

In the choreographic aspect of training we have selected assessment criteria for each component. So, "music and musicality" reflects the "suitability" of music that is a combination of movements and music. Music must be adapted to the requirements of sports aerobics. The movement must be performed in accordance with the style, tempo and structure of music. The choice of music and the musicality of the performer helps to establish the structure and tempo, as well as the theme of the exercise. Music supports and should also be used in order to inspire the use of choreography from the beginning to the end of the exercise and to contribute to the style and quality of performance (*Aerobics; Sosina V. Yu, 2009*).

"Aerobic content." The performance of aerobic dance movements (SAR) reflecting the consistent exercise aerobic gymnastics (*Aerobics; Kokarev B. V., 2014*). "Aerobic content" consists of "coordination difficulty of movements", "creativity" and "intensity".

"Common content" includes all movements, besides the compounds of aerobic dance movements and physical interaction. The "common sense" is also estimated on the coordination difficulty, creativity and unity of the elements (*Aerobic exercises; Pityn M., 2013*).

According to the criteria of "use of recreation area" judges of artistry evaluate the effective use of the recreation area, directions of movement, use of three spatial levels, placement and distribution of movement in the exercise. Exercise should be well balanced. "The use of recreation area" includes the number of ATS and directions of movement, distribution and balance, building and shaping movements which are the basis of the choreography program (*Todorova V. H., 2016*).

Artistry - the ability of the gymnast (s) to convert the contents of a well-structured exercise into an artistic performance to express themselves through high quality level of movements tailored to their family (husband, wife, and age group). Artistry is evident in the craftsmanship and modulation (changing pitch) as well as in the amplitude (range of motion) and speed, demonstrates the characteristics of exercise aerobic gymnastics (*Yusupova L. A., 2013*). Directly "artistic quality" is evaluated in terms of performance, expressiveness (expression) and partnerships.

The criteria of "technical skills" were: "form movements" and "beyond and posture", "precision in movements". "Elements of difficulty of the choreographic movements" are valued at the balance of selection and arrangement of all movements, the variety of movements, creativity and smoothness of the compounds of elements of complexity and movements.

Quantitative scale for assessment of each criteria for the sport aerobics choreography was designed, based on FIG rules with maximum score - 2 points:

"Excellent" -> 0.23;

"Very good" - 0.19 - 0.23;

"Good" - 0.14 - 0.18;

"Satisfactory" - 0,09-0,13;

"Poor" - 0.04-0.08;

"Unclassified" - <0.04.

The level of choreographic training determines on the sum of points: "high"> 0.69 points; "above average" - 0,57-0,68 points, "Average" - 0,42-0,55 points, "below average" - 0,27-0,41 points "Low" - <0.27 points.

Table 1 shows the average of five experts on all the criteria of choreographic training (according to the FIG rules for international competitions). The data indicate that the team leader (France) received the highest scores for choreography. The national team of Ukraine, which took 7th place in the final, lost too much on the choice of music (0.07 points) unity, form, precision in movements, partnership and posture (0.08 points). The lowest score was obtained by Ukrainian team for balance of movement - $0,13 \pm 0,013$, which is 0.10 points less than the team leader (Table 1).

Table 1. Average expert assessment of choreographic training criteria of the best teams -participants of Sports Aerobics World Championship 2016 ($p < 0,05$)

Choreographic training criteria		Teams (n=4)			
		France	China	Mongolia	Ukraine
Music and musicality	choice of music	0,24±0,002	0,22±0,004	0,22±0,006	0,17±0,013
	music content	0,23±0,002	0,22±0,003	0,22±0,004	0,16±0,014
	musicality	0,23±0,002	0,22±0,004	0,22±0,002	0,16±0,005
Aerobic content	coordination	0,23±0,003	0,22±0,003	0,22±0,005	0,16±0,013
	complexity				
	artistic quality	0,23±0,004	0,21±0,004	0,22±0,002	0,17±0,007
	intensity	0,23±0,006	0,20±0,004	0,22±0,004	0,19±0,003
Common content	coordination	0,23±0,004	0,21±0,002	0,22±0,005	0,17±0,014
	complexity				
	artistic quality	0,23±0,004	0,20±0,005	0,22±0,002	0,17±0,005
	unity	0,23±0,002	0,21±0,004	0,22±0,004	0,15±0,012
Use of recreation area	number of AAr	0,23±0,002	0,22±0,004	0,22±0,006	0,18±0,005
	distribution and balance	0,23±0,002	0,22±0,002	0,21±0,007	0,13±0,013
	Construction and formation of movements	0,23±0,003	0,21±0,007	0,22±0,004	0,16±0,009
Artistic quality	quality	0,23±0,002	0,20±0,007	0,22±0,005	0,17±0,009
	expression	0,23±0,002	0,22±0,007	0,20±0,002	0,17±0,005
	partnership	0,22±0,004	0,2±0,004	0,22±0,007	0,14±0,007
Technical skills	form of movement	0,23±0,002	0,22±0,007	0,21±0,007	0,15±0,007
	posture and pose	0,23±0,002	0,22±0,002	0,214±0,005	0,15±0,007
	precision in movements	0,23±0,002	0,22±0,002	0,20±0,005	0,15±0,008
Elements of difficulty	location motions	0,23±0,004	0,22±0,002	0,21±0,006	0,15±0,007
	movement's variety	0,23±0,002	0,22±0,005	0,21±0,006	0,17±0,004
	creativity	0,23±0,002	0,21±0,007	0,2±0,004	0,15±0,007

It should be noted that the teams from China and Mongolia (took 2nd and 3rd places) weren't differ each other in all criteria of choreography in accordance with obtained points.

According to total amount, the level of choreographic training of different teams has been revealed (choreography components) (Table.2).

According to assessment scale the French team can be a model for Ukrainian team. French team has a high level of choreographic criteria as "music and musicality," "common content", "use of recreation area" (0,70 points) and above average on the criteria of "aerobic contents", "artistic quality" and "technical skills" and "elements of difficulty" (0,68-0,69 points). It should be noted that according to some criteria "aerobic content", "common content", "use of recreation area" and "artistic quality" Mongolia team ahead of the Chinese team, despite the fact that notch below (Figure 1).

Table 2. The level of choreographic training of Ukrainian team and best teams of the world (2016)

Choreographic training criteria	France	China	Mongolia	Ukraine
Music and musicality	0,70	0,66	0,66	0,49
Aerobic content	0,69	0,63	0,67	0,52
Common content	0,70	0,62	0,67	0,50
Use of recreation area	0,70	0,65	0,66	0,47
Artistic quality	0,68	0,62	0,64	0,48
Technical skills	0,69	0,66	0,63	0,44
Elements of difficulty	0,69	0,66	0,62	0,48

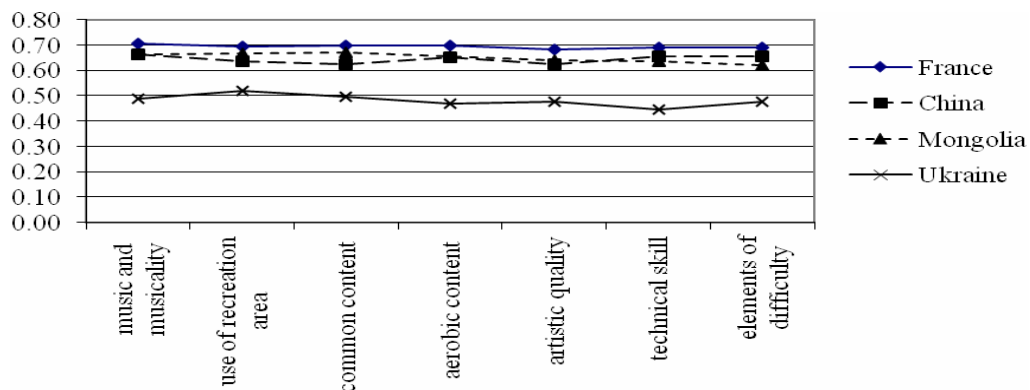


Fig 1. A comparison of level of choreographic training of the best teams in the world and Ukrainian team.

Obtained data have shown that the national team of Ukraine has "average" level of choreography (0,44-0,52), while the best teams in the world have a level of "high" and "above average" (0,62-0,70) (Fig .1).

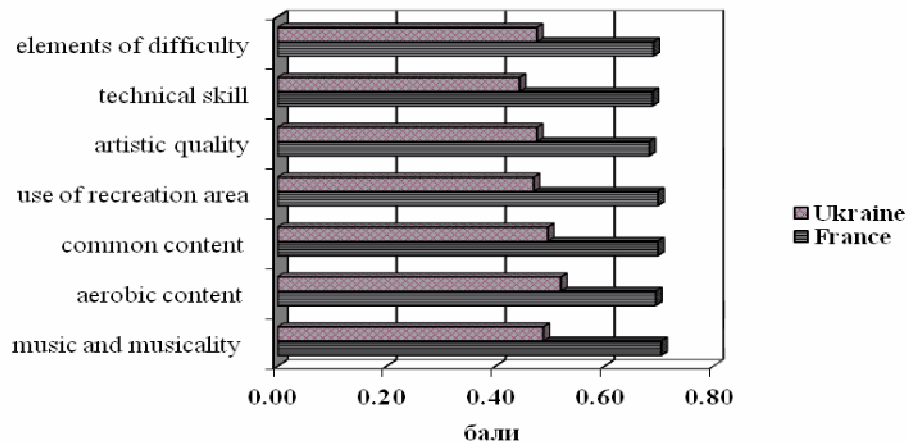


Fig. 2. A comparison of the level of choreographic training of Ukrainian team with the French team.

The data (Fig. 2) show that the Ukrainian national is losing French team in all criteria choreographic training. The greatest distance from the results of French team has a "technical skills": France – 0,69; Ukraine - 0.44 points. Most approximate rates to the result of the French team performance is "aerobic content": France – 0,69; Ukraine – 0,52. (Table 2;. Fig.2). However, the result of the Ukrainian national team, unfortunately, is far from French team.

In our opinion, the decline in choreographic training of Ukrainian team is due not only physiological discomfort of athletes associated with the change in time zone, but also failure and imperfection of choreographic training. Thus the study of method of analysis, construction and improvement in choreographic training is an important aspect of the scientific and methodological direction. The coaches are based on a number of general principles and laws of building training in the gym method as well as on special requirements in accordance with the competition rules (new estimates for sports aerobics (2013-2016)). But these requirements are general and briefly reveal the contents of "artistry" (for "choreography program").

Conclusions

It was revealed that the best teams in the world have the highest mark for the choreographic component of competitive programs.

A quantitative scale of criteria for choreographic training assessment, taking into account the maximum score for each component according to the FIG rules, was designed.

The level of choreographic training was determined, team of Ukraine has "average" level of choreography (0,44–0,52), while the best teams in the world have a level of "high" and "above average" (0,62–0,70). Model indicators which can be the model of the best choreographic training in 2016 as follows: "music and musicality", "common content", "the use of recreation area" - "high level" (0.70 point) were revealed in performance of French team.

Prospects for further research - to determine choreographic movements and actions demonstrating an expression and artistry and to identify quantitative assessment of choreographic component of mastery in aerobics.

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