

Original Article

Choreographic training in the sport aerobics

VALENTYNA TODOROVA¹, VIKTORIIA PODHORNA¹, OLHA BONDARENKO¹, TETIANA PASICHNA², YURII LYTUVYENKO³, VITALII KASHUBA³

¹The state institution «South Ukrainian National Pedagogical University named after K. D. Ushynsky», Odesa, UKRAINE

²National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Kyiv, UKRAINE

³National University of Ukraine on Physical Education and Sport, Kyiv, UKRAINE

Published online: November 30, 2019

(Accepted for publication: November 15, 2019)

DOI:10.7752/jpes.2019.s6350

Abstract

The research was conducted with the aim to check effectiveness of realization of qualification programs for choreographic training at the different stages of long-term development of the sport aerobic sportsmen.

Materials and methods: pedagogic supervision, visual appraisal of choreographic preparedness of the training process participants. Methods of descriptive statistics; Shapiro-Wilk criteria; Student parametric criteria.

Results: it was found that technical and esthetic component parameters of choreographic preparedness of experiment group (EG) of the sportsmen were increased by 37% and 33,8% respectively owing to exercises as per devised qualifying programs at the stage of initial training, by 29,4% and 44,5% at the stage of preliminary basic training, by 36,8% and 43,5% at the stage of specialized basic training.

Conclusions: results of research illustrate that implementation of qualification programs of choreographic practice into sport aerobic training process improves choreographic preparedness criteria in all components and at different stages of the long-term betterment of the sport aerobic sportsmen.

Key words: choreographic training, sport aerobics, criteria and components, stages of training, technical and esthetic kinds of sport.

Introduction

Choreographic training creates preconditions for successful formation and maintenance of the high level of the sport mastery. It is part of the system of values for the sportsmen (Biryukova, 1990; Sosina, 2009). The sport result in technical-esthetic sport is assessed in points depending on beauty, complexity, accuracy and virtuosity of the emulative programs performance, that's why choreographic training assumes special significance (Wright, 2003). Sport aerobic is particularly marked out among such kinds of sport. It is the least studied in spite of its' popularity in the world. Necessity of continuous up growth of the sportsmen's skills along with the high demands of the competition rules require scientific argumentation of the choreographic training (Lutsenko, 2007; Kokarev, 2015; Mezei, 2015).

As per majority of experts' opinion the choreographic training is not the separate mode of training as it is considered as a part of the technical or specialized physical training (Lysenko, 2006; Serebryanskaya, 2007; Ginkevich, 2017). In our research the choreographic training is taken up as independent unit because of necessity of interference of narrow specialists – choreographers, accompanists, stage-managers and coaches. Also it has specific principles, means, methods and is determined to solve specific tasks (upbringing of the culture of moves, artistry, expressiveness and inventive thinking ability), that essentially distinguish it among other modes of training (Sosina, 2009). Such approach presumably would allow to increase level of choreographic preparedness of the sportsmen in aerobic in accordance with the competition rules requirements.

The research aim was verification of effectiveness of qualification programs of choreographic training at various stages of long-term advancing of the sportsmen in aerobic.

Material & methods

Pedagogical supervision has been conducted during 2016-2018 years on the premises for education, training and competition of the sportsmen of Odessa. 181 sportsmen volunteered to participate in experiment: 59 – on the stage of initial training; 61- on the stage of preliminary basic training; 61 – on the stage of specialized basic training. The selection was divided in each stage frames into experimental group (EG) and control group (CG) by the method of pairwise choice: the stage of initial training (IT) – EG (n=30), CG (n=29); the stage of preliminary basic training (PBT) – EG (n=30), CG (n=31); the stage of specialized basic training (SBT) – EG (n=30), CG (n=31). Participants of experiment were at the most similar as per criteria significant for the experiment. In our case these are criteria of technical component (body posture, amplitude, tensivity, stability,

motion exactness, completeness of the moves, lightness) and of esthetic component of choreographic preparedness (plasticity, musicality, dancing skills, rhythmic, motional expressiveness and emotionality).

Qualification programs regulating formation means of content of educational-training process were introduced into training of EG.

CG sportsmen on all stages of the training performed choreographic exercises in accordance with the training program for sport aerobic. This program offers the set of exercises necessary for training regardless of the stage of training of the sportsmen.

Weekly micro cycle of choreographic training at the stage of initial training in sport aerobic is presented in the table 1.

Table 1. Choreographic training in the weekly micro cycle at the stage of initial training

Day of week	Choreographic means	Part of exercise	Duration
<i>first year of training</i>			
Monday	Choreographic warming-up	Preparatory	4 min
Wednesday	Classic exercise at ballet barre or parterre drill	Main	8 min
Friday	Musical games, exercises for muscles' exertion and relaxation	Final	3 min
Total hours per week			15 min
<i>second year of training</i>			
Monday	Choreographic warming-up	Preparatory	4 min
Wednesday	Classical exercise at ballet barre	Main	9 min
Friday	Parterre drill	Main	9 min
Saturday	Musical games, exercises for muscles' exertion and relaxation, elements of free plastic arts	Final	3 min
Total hours per week			25 min

Weekly micro cycle of choreographic training at the stage of preliminary basic training is presented in Table 2.

Table 2. Choreographic training in the weekly micro cycle at the stage of preliminary basic training

Day of week	Choreographic means	Part of exercise	Duration
<i>first year of training</i>			
Tuesday	Choreographic warming-up + exercise at ballet barre	Preparatory Main	5 min 13 min
Thursday	Classical exercises near at barre or in the middle Classical exercises with the elements of the free plastic arts	Preparatory Main	12,5 min 10 min
Saturday	Parterre drill	Main	17 min
	Musical games, exercises for muscles' exertion and relaxation, elements of free plastic arts, improvisation	Final	5 min.
Total hours per week			62,5 min
<i>second year of training</i>			
Понедельник	Choreographic warming-up Exercises at barre with the elements of the folk-scenic dance	Preparatory Main	7 min 12 min
Wednesday	Choreographic warming-up Exercises in the middle with the elements of the folk-scenic dance	Preparatory Main	7 min 10 min
Friday	Choreographic warming-up Parterre drill	Preparatory Main	5 min 12 min
Saturday	Classical exercises in the middle	Main	10 min
	Exercises for exertion and relaxation	Final	5 min

Sunday	Choreographic warming-up Exercises for muscles' exertion and relaxation, improvisation, musical and rhythmic tasks	Preparatory Final	4 min 3 min
Total hours per week			75 min
<i>third year of training</i>			
Monday	Choreographic warming-up Exercises at barre with elements of the folk-scenic dance	Preparatory Main	5 min 12 min
Tuesday	Choreographic warming-up Exercises in the middle with the elements of modern dance	Preparatory Main	5 min 10 min
Wednesday	Parterre drill	Main	11,5 min
Thursday	Exercises in the middle Elements of free plastic arts	Main Final	10 min 3 min
Friday	Exercises at ballet barre	Main	12 min
Saturday	Choreographic warming-up Exercises for muscles' exertion and relaxation, improvisation, musical and rhythmic tasks	Preparatory Final	5 min 4 min
Total hours per week			77,5 min
<i>fourth year of training</i>			
Tuesday	Choreographic warming-up Exercises near prop with the elements of folk-scenic dance	Preparatory Main	5 min 15 min
Wednesday	Choreographic warming-up Exercises at barre with the elements of free plastic arts	Preparatory Main	5 min 12 min
Thursday	Parterre drill	Main	12 min
Friday	Exercises in the middle Exercises for muscles' exertion and relaxation, free plastic arts elements, pantomime	Main Final	10 min 4 min
Saturday	Choreographic warming-up Exercises at barre with the elements of folk-scenic dance	Preparatory Main	5 min 15 min
Sunday	Musical tasks Exercises for muscles' exertion and relaxation, improvisation, pantomime	Final	4,5 min
Total hours per week			87,5 min

Weekly micro cycle of choreographic training at the stage of the specialized basic training is presented in the Table 3.

Table 3. Choreographic training in the weekly micro cycle at the stage of specialized basic training

Day of week	Choreographic means	Part of exercise	Duration
<i>first year of training</i>			
Monday	Choreographic warming-up Exercises at barre with the elements of the folk-scenic dance	Preparatory Main	5 min 14 min
Tuesday	Choreographic warming-up Classical exercises in the middle with the elements of free plastic arts	Preparatory Main	5 min 14 min
Wednesday	Choreographic warming-up Parterre drill	Preparatory Main	5 min 12 min
Thursday	Classical exercises in the middle with the elements of the modern and ball dances Free plastic arts elements	Main Final	14 min 4 min
Friday	Choreographic warming-up Exercises at barre with the elements of the folk-scenic dance	Preparatory Main	5 min 14 min

Saturday	Musical games, Exercises for muscles' exertion and relaxation	Final	3 min
Total hours per week			95 min
<i>second year of training</i>			
Monday	Choreographic warming-up Exercises at barre with the elements of the folk-scenic dance	Preparatory Main	5 min 15 min
Tuesday	Choreographic warming-up Classical exercises in the middle with the elements of the free plastic arts	Preparatory Main	5 min 15 min
Wednesday	Choreographic warming-up Exercises at barre with the elements of the modern dance	Preparatory Main	5 min 12 min
Thursday	Parterre drill	Main	15 min
Friday	Choreographic warming-up Exercises in the middle with the elements of the free plastic arts	Preparatory Main	5 min 14 min
Saturday	Musical games, Exercises for muscles' exertion and relaxation	Final	3 min
Total hours per week			106min
<i>third year of the training</i>			
Monday	Choreographic warming-up Exercises at the barre with the elements of the folk-scenic dance	Preparatory Main	5 min 15 min
Tuesday	Choreographic warming-up Classical exercises in the middle with the elements of modern and ball dances	Preparatory Main	5 min 15 min
Wednesday	Choreographic warming-up Exercises at the barre with the elements of modern dance	Preparatory Main	5 min 15 min
Thursday	Choreographic warming-up Parterre drill	Preparatory Main	5 min 16 min
Friday	Choreographic warming-up Exercises in the middle with the elements of the folk-scenic dance	Preparatory Main	5 min 15 min
Saturday	Choreographic warming-up Musical games. Exercises for muscles' exertion and relaxation	Preparatory Final	6 min 5 min
Total hours per week			112,5min

Working out of the scale and methods of evaluation of the sportsmen' choreographic preparedness is based on demands to performance of choreographic elements declared in the rules of competition for sport aerobic. Group index (I) was calculated for description of the group level of sportsmen choreographic preparedness. It is defined as simple average mark of the individual ratings of all selected probationers.

Three-level interpretative scheme which based on determination of limits of average level of sportsmen' choreographic preparedness on the basis of arithmetical mean and average quadratic deviation ($M \pm SD$) [4], was worked out for presentation of actual information.

For that to be done arithmetical mean ($M=1,52$) and average quadratic deviation ($SD=0,21$) of individual indices of choreographic preparedness of all participants of the testing were calculated and also intervals of marks were defined according to author scheme of interpretation of results: low level ($\leq 1,2$ ball), sufficient (1,3 to 1,7 ball) and optimal ($\geq 1,8$ ball). Statistical methods included parametrical Student criterion. Statistical significance was taken as $P < 0.05$.

Results

Obtained figures testify that due to exercises as per worked on programs of choreographic practice the sportsmen (EG) certainly improved their indices of choreographic preparedness (I_{xn}) on the different stages of long-term training.

Thus, growth of the group index of the technical component (I_m) by 38,7% was observed at the stage of initial training (IT), from low level (1,16 \pm 0,14 points) to sufficient level (1,61 \pm 0,18 points); ($p < 0,001$). Computation of the group index of esthetic component (I_e) at the initial training stage corroborated that it is higher by 23,8% in EG sportsmen than in CG ($p < 0,001$). Index of esthetic component for EG sportsmen was $I_e=1,21 \pm 0,10$ points in the beginning of experiment, i.e. low level, while to the end of experiment it was improved by 38,7% up to sufficient level and amounted to 1,64 \pm 0,15 points ($p < 0,001$). Increase by 10,0% was

observed in indices I_{xn} for CG sportsmen – from $1,20 \pm 0,09$ (low level) to $1,32 \pm 0,1$ points (sufficient level) ($p > 0,05$) (table 4).

Table 4. Intergroup alterations choreographic preparedness indices of the sportsmen

Stages	Groups' indices	EG				CG				EG-KG	
		Before, (points)	After, (points)	Alteration of the indices, %	t-criterion of Student, P	Before, (points)	After (points)	Alteration of the indices, %	t-criterion of Student, P	Difference, %	t-criterion of Student, P
IT	I_m	1,16 $\pm 0,14$	1,61 $\pm 0,18$	38,7	7,52; <0,001	1,17 $\pm 0,13$	1,30 $\pm 0,13$	11,1	1,98; >0,05	23,8	7,52; <0,001
	I_e	1,24 $\pm 0,12$	1,66 $\pm 0,13$	33,8	12,2; <0,001	1,20 $\pm 0,10$	1,34 $\pm 0,12$	8,9	1,93; >0,05	23,8	9,89; <0,001
	I_{xn}	1,21 $\pm 0,10$	1,64 $\pm 0,15$	35,5	13,77; <0,001	1,20 $\pm 0,09$	1,32 $\pm 0,10$	10,0	1,93; >0,05	24,2	10,37; <0,001
PBT	I_m	1,36 $\pm 0,28$	1,76 $\pm 0,15$	29,4	6,63; <0,001	1,35 $\pm 0,29$	1,47 $\pm 0,25$	8,8	1,69; >0,05	19,7	5,25; <0,001
	I_e	1,19 $\pm 0,16$	1,72 $\pm 0,11$	44,5	14,45; <0,001	1,24 $\pm 0,18$	1,38 $\pm 0,17$	11,2	2,56; <0,05	24,6	8,93; <0,001
	I_{xn}	1,28 $\pm 0,20$	1,73 $\pm 0,11$	35,1	10,04; <0,001	1,30 $\pm 0,20$	1,43 $\pm 0,18$	10,0	1,56; >0,05	20,9	7,83; <0,001
SBT	I_m	1,36 $\pm 0,13$	1,86 $\pm 0,09$	36,7	15,86; <0,001	1,36 $\pm 0,19$	1,50 $\pm 0,16$	10,2	1,95; >0,05	24,0	10,42; <0,001
	I_e	1,24 $\pm 0,12$	1,78 $\pm 0,11$	43,5	17,71; <0,001	1,23 $\pm 0,11$	1,39 $\pm 0,14$	13,0	2,04; <0,05	28,0	11,68; <0,001
	I_{xn}	1,31 $\pm 0,09$	1,82 $\pm 0,07$	38,9	12,63; <0,001	1,31 $\pm 0,11$	1,45 $\pm 0,12$	10,6	1,98; >0,05	25,5	12,63; <0,001

Comments: $t_{kp}=2,00$ ($p < 0,05$);
 $t_{kp}=2,66$ ($p < 0,01$);
 $t_{kp}=3,46$ ($p < 0,001$);
stage of initial training (IT) – EG (n=30), CG (n=29);
preliminary basic training (PBT) – EG (n=30), CG (n=31);
specialized basic training (SBT) – EG (n=30), CG (n=31).

At the stage of preliminary basic training (PBT) the EG sportsmen' level I_m after experiment was defined as optimal and made up $1,75 \pm 0,16$ points. It is 19% more than in CG where respective assessment made up $1,47 \pm 0,25$ points i.e. sufficient level ($p < 0,001$). At that the difference of alterations of indices as per this component for EG sportsmen made up 29,4% whereas for CG – 8,8%. Increase of I_e for EG sportsmen at the stage of preliminary basic training made up 44,5% that corresponds to optimal level ($1,72 \pm 0,11$ points) as per worked out scale, whereas for CG it remains at the previous level ($1,38 \pm 0,17$ points). High level of trustworthiness was registered between I_e indices in the groups. Increase of I_{xn} by 35,1% ($p < 0,001$) for EG sportsmen was observed: it was raised to optimal as a result of application of qualificatory-oriented programs of choreographic training, whereas for CG sportsmen it was improved for 10% only and corresponded to sufficient level ($I_{xn} = 1,43 \pm 0,18$ points, $p > 0,05$).

At the specialized basic training (SBT) stage the I_m for EG sportsmen was improved by 36,7% upon ending of experiment and reached optimal level, whereas for CG it remained at sufficient level although was increased by 10,2% ($p < 0,05$). Qualificatory-oriented programs application secured increase of esthetic component's indices for EG sportsmen by 43,5% that allowed them to achieve optimal level of choreographic preparedness ($I_e = 1,78 \pm 0,11$ points), while CG sportsmen improved their indices by 13,0% ($p < 0,05$) only and achieved sufficient level ($I_e = 1,39 \pm 0,14$ points). General level of EG sportsmen choreographic preparedness by commencement of experiment was at sufficient level ($I_{xn} = 1,31 \pm 0,09$ points) and at the end of experiment it improved by 38,9% and achieved optimal figures ($I_{xn} = 1,82 \pm 0,07$ points) ($p < 0,001$), while for CG it improved by 10,6% ($p < 0,05$).

Thus, the results of research attest that sport aerobic programs implantation into training process of sportsmen at the stages of initial, preliminary and specialized basic training facilitate greater improvement of their choreographic preparedness.

Discussion

Study of publications for choreographic training problematics revealed discreteness of majority of scientific data. It is linked to elucidation of effectiveness of choreographic exercises use in various technical and esthetic sports (Kizim, 2016; Ghinkevich, 2017), rather than argumentation for upkeep of choreographic training in the course of longstanding perfection that accordingly was put in the basis of our research.

Interpretation of scientific data allowed us to determine actual directions of improvement of choreographic training in the technical and esthetic sports which related to the solution of the number of problems: 1) assistance for harmonious progressing of the personality, 2) elimination of existing contradiction between choreographic training as relatively self-dependent division of training and absence of representation of this fact in educational programs for technical and esthetic sports, 3) elaboration of appropriate scientific-methodical basing for choreographic training in the sports with high requirements to motion culture demonstration. Some of them have been partly studied by sport experts (Serebryanskaya, 2007; Golovko, 2011; Roters, 2013).

Our research was preceded by preliminary analyses of the content of existing training programs for children's and youth sports schools, specialized children's and youth sports schools of Olympic reserve, highest sport mastery schools.

In the majority of analyzed programs the choreographic training belongs to the section of technical and specialized physical training. Choreographic elements presented in existing educational programs are mainly techniques taken from ballet practice which are not adopted to the specific peculiarities of the sportsmen activity in various technical and esthetic sports.

We propose new approach to choreographic training process which is based on the use of developed qualifying programs for choreographic training however taking into consideration sports' specific characters, stage of sport training, level of sportsman preparedness. Use of different choreographic means allowed to expand content of choreographic training's component. For instance, technical component perfection required study and execution of varieties of jumps, rotations, balances, inclinations, free plastic arts' elements, exercises in parterre, combination of choreographic elements with the sports' elements. Esthetic component perfection – use of musical games (with representation of topic, character and rhythmic pattern of the music), of music and rhythmic exercises, elements of improvisation, dance therapy and exercises for development of imagination.

Thus, methodical basics for sport training in the sport aerobics with application of choreographic training's means and methods (Platonov, 2015) and knowledge about structure and content of choreographic training at the different phases of long-term perfection in sport aerobics (Lutsenko, 2007) were further worked out and developed. Information about levels of choreographic training at the stages of initial, preliminary basic and specialized basic trainings in the technical and esthetic sports was expanded (Sosina, 2009). Effectiveness of training programs for choreographic training at the stages of initial, preliminary basic and specialized basic trainings of the sport aerobics sportsmen was experimentally proved.

Conclusions

Practical implementation of qualifying-oriented programs for choreographic training into the process of aerobics sportsmen training enabled to increase qualitatively effectiveness of choreographic classes that resulted in improvement of indices of technical and esthetic components of their choreographic preparedness. Thus, at initial phase of the training the indices of technical component raised by 37% in EG, by 11% - in CG; indices of esthetic component by 33,8% and 8,9% respectively. At the stage of preliminary basic training the indices of the technical component improved by 29,4% in EG and by 8,9% in CG; indices of esthetic component underwent drastic changes at this stage in EG sportsmen – 44,5% and in CG – 11,3%. Analogous changes occurred also with aerobic sportsmen at the stage of specialized basic training: indices of technical component raised by 36,8% in EG and by 10,3% in CG; indices of esthetic component by 43,5% and 13% respectively.

Conflicts of interests. Author declares that there is no conflict of interests.

References

- Biryukova E. (1990). *Choreographic training in sport*. Kiev: KGIFK
- Ginkevich I.V. (2017). Choreography as a source of the athlete's resource status in difficult-coordinated sports. *Bulletin of the Academy of Russian Ballet. A. Ya. Vaganova*, (6), 59–68
- Golovko A.B. (2011). Choreography in modern sports. *Theory and practice of physical culture*, (6), 62–63
- Denisova L.V, Khmel'nitskaya I.V. & Kharchenko L.A. (2008). *Measurements and methods of mathematical statistics in physical education and sport: studies. allowance*. Kiev: Olympus. Liter

- Kizim V., Andreeva R.(2016). The technology of teaching rhythm and choreography and the impact on the physical fitness of students of the Institute of Physical Education and Sports.*Physical culture, sport and health natsii*, (20), 71-75
- Kokarev B.V.(2015). *Construction of the training process of highly skilled athletes in aerobic training in the annual cycle of preparation* [dissertation]. Dnipropetrovsk
- Lutsenko L.S.(2007). Choreographic training in aerobic gymnastics.*Pedagogy, psychology and biomedical problems of physical education and sport*, (10), 95–97
- Lysenko E.A. (2006). The relationship of special and choreographic training of young acrobats.*Physical education of students of creative specialties*, (2) 17–22
- Platonov V.N.(2015). *The system of training athletes in Olympic sports.General theory and its practical applications*.Olympic. Literature
- Roters T.T. (2013).Physical improvement of students in the process of interaction of physical and aesthetic education. *Physical Education of Students*, (4), 73-76
- Serebryanskaya EA. The influence of choreography on the special physical training of acrobats.*Pedagogy, psychology and biomedical problems of physical education and sport*. (1), 132–135
- Sosina V.U. (2009). *Choreography in gymnastics: studies. allowance*. Olympus. Literature
- Todorova V., Briskin Yu.,Perederiy A. &Pityn V. (2016). Theoretical substantiation of criteria of choreographic preparedness of athletes in difficultly coordinated sports. *Physical activity, health and sports*. 3 (25), 12-19
- Todorova V. (2016). Analysis of software and normative support for choreographic training in difficultly coordinated sports. *Physical activity, health and sports*, 1: 23-32
- Mezei M. (2015). Current Aspects Regarding the Development of Choreographic Routine in High Performance Aerobic Gymnastics.În *The International Congress of Physical Education, Sport and Kinetotherapy 5th Edition, Bucharest*
- Wright, Lesley (2003). Aesthetic implicitness in sport and the role of aesthetic concepts.*JournalofthePhilosophyofSport*, 30 (1), 83-92.