

Original Article

Program for the modernization of preparation of physical cultural bachelors in the field of recreation

SHUTOVA TATYANA NIKOLAEVNA¹, VYSOTSKAYA TATYANA PETROVNA², RYBAKOVA ELENA OLEGOVNA³, BODROV IGOR MIKHAILOVICH⁴

^{1,2,4}Department of Physical Education, Plekhanov Russian University of Economics, RUSSIAN FEDERATION

³Department of Theory and Methods of Physical Culture and Life Safety, Tchaikovsky State Institute of Physical Culture RUSSIAN FEDERATION

Published online: July 31, 2018

(Accepted for publication June 30 2018)

DOI:10.7752/jpes.2018.s2168

Abstract:

The purpose of the research: development and experimental substantiation of the modernized program on formation of recreational competence of future bachelors in physical culture.

Material: the experiment was implemented on the basis of the Federal State Educational Institution of Higher Education "Tchaikovsky State Institute of Physical Culture" from 2014 to 2017 (2 - 4 years). The study involved students (n = 125, age 18-21) future bachelors of physical education. In the process of training, the students of the experimental group were introduced a program on the formation of recreational competence, based on basic and variable disciplines, with an emphasis on practice-oriented recreational activities and health fitness. The students of the control group were trained in identical basic disciplines, and the cycle of variative disciplines was chosen on the basis of sports games as a means of recreation, athletics and martial arts.

Results: the conducted pedagogical experiment revealed the advantage of future bachelors of physical culture of the experimental group in comparison with the control group in the ability to conduct recreational activities, the ability to compose an individual program of classes and nutrition; solving situational problems in the preparation of health programs, taking into account the age, gender and level of physical fitness of those involved; possession of techniques to reduce body weight; knowledge of models of recreational activities for preschool children, schoolchildren, students, adults; and also in organizational abilities (children's leisure, tourist activity, physical culture lesson, active rest on water, industrial gymnastics taking into account factors of labor activity).

Conclusions: the conducted experiment proved the effectiveness of the developed program for the preparation of bachelors of physical culture, the result is provided with the content of basic and variational disciplines, developed by the authors, in the context of short-term training, the content of classes and their high practical and personal-oriented direction of training, with an emphasis on means of fitness in future recreational activities.

Key words: recreation, specialist in the field of physical culture and sport, competence, professional competence, recreational competence, health fitness.

Introduction

The program for the development of Russian education until 2020 sets the task of training qualified teachers in physical culture in demand in all levels of educational institutions, in the system of additional education, in federations in the sports, in recreational work with different contingents involved. At the same time, at present there is a discrepancy between the content of education and the new social requirements of society, the rapidly changing needs of the individual, the conditions of high competition in the labor market. The problematic situation is that - on the one hand - recreational activities are developing in educational institutions, in the field of active recreation and fitness, in the sanatorium treatment industry with elements of recreation and recreational tourism; on the other hand, there are few programs, models and technologies for training future specialists in the field of recreation. [3, 5, 6, 7, 26, 27, 31]. The traditional program of training students of a sports college does not cover these competencies. Consequently, the focus of education on the formation of recreational competencies involves the creation of new disciplines, variational years, and teaching technologies in which the graduate can show activity in improving the population of the country, individualizing the training process, familiarizing with regular physical training. At the same time, the requirements for the competencies of future bachelors of physical culture are defined in the Federal State Educational Standards of Higher Education (Order №935 of 2014 (in the direction of training 49.03.01 Physical culture, the level of bachelor's degree) and presuppose the ability to organize and conduct physical fitness classes for various groups of the population; knowledge of techniques for managing body weight for people of different ages and gender, knowledge of the methodology of compiling training programs in accordance with the functional state, possession of methods of recreation constant activity (PC 15, 16, 17, 18, 19, 20). Objects of professional activity of the bachelor are

persons involved in activities in the field of physical culture, sports and potential consumers of health and sports services. A graduate of a sports school should be able to organize and conduct physical education, health and tourism classes for different groups of the population. This activity in the Federal State Educational Standards of Higher Education is designated as recreational.

Recreational activity consists in the development and implementation of a variety of playful, recreational, leisure programs for various groups of the population with the aim of restoring the forces expended in the process of labor, eliminating the production tension, and also of the necessary increase in the educational and spiritual potential. Recreational activities (physical exercises, tourism, natural forces of nature, diet, work, leisure, way of life) in sociological and psychological studies are interpreted as "the activity of a person in his spare time, carried out with the purpose of restoring the physical strength of man, as well as for its comprehensive development and characterized by a relative diversity of human behavior and the self-worth of its process" [8, 11, 14, 18].

In general, the concept of "recreation", formed from the Latin "recreatio": restore, rest, strengthen. Today, recreation includes social, psychological and biological content. Under the recreational preparation of the bachelor of physical culture, we mean the ability to carry out various forms of motor activity with different populations, aimed at restoring the strength, recommendations for independent studies, using modern fitness technologies, fitness programs, modernized industrial gymnastics, sports and health tourism and animation [5, 6, 21, 29].

Recreational and therapeutic exercises are a system of classes, determined by the methods of sanatorium-and-spa treatment. Recreational and recreational activities are more diverse and include walking, swimming, air and sun bathing, sports games, passive and active recreation, stretching, low-intensity aerobics. Recreational and sports classes are aimed primarily at developing the physical strength of a person (non-standard forms of active recreation and training using sporting fitness technologies, physical fitness), and recreational cognitive activities for the spiritual development of a person, while many recreational activities in the real situation are combined. The recreant can consciously combine recreational activities for a certain period of time. Obviously, the more combinations are, the more effective recreational activity is, since in this case more recreational needs are satisfied in a unit of time. The peculiarity of physical recreation is the non-mandatory regulation in physical exercises, games and entertainment, complete freedom of choice of places, time and type of occupation, their form, content and duration, age, gender and degree of physical fitness [1, 2, 3, 7, 8].

The analysis of recreation abroad revealed three leading types of sports activities for men and women: swimming, health fitness, cycling. For people of the 18-64 age group, physical activity involves health-improving exercises (health fitness) or leisure activities, mobile activities (such as biking or walking and running), professional activities, household chores, games, competitions, sports or planned activities in the daily activities of the family and society [26-31]. In foreign, economically developed countries, the corporate structures responsible for health care want to know what risk factors are the most costly for the company. Thus, hypodynamia and obesity were identified as one of the main factors. Considering the financial responsibility for employees with health problems, forward-looking organizations try to identify all the risk factors before the situation gets out of hand and begins to require additional financial costs. Many companies are developing a projective action plan to address the main health problems of an employee and the effectiveness of his work. The formation of a healthy working culture implies the creation of favorable and full-fledged working conditions, including sports facilities on the territory of the enterprise, racetracks, gyms, healthy food options in cafeterias, the organization of freedom from tobacco smoke, the provision of sports personnel and sports equipment to enterprises of all forms of ownership, free subscriptions to fitness centers [26-31].

Therefore, the training of physical culture personnel should be oriented in the field of recovery of all categories of the population, the ability to compose individual programs for self-study, health swimming lessons and other water programs, health fitness, active cycling (cycling trips, cycling tourism). The problem in the preparation of physical training personnel is that currently there is no concept of forming competencies for organizing recreational activities, modern teaching technologies, adapted methods of sport tourism and a diversifying approach in the development of recreational programs (multiple options for recreational activities) are not sufficiently used.

In the federal state educational standard of higher education of physical culture the following competencies of recreational activity are registered: the ability to independently conduct recreational activities in institutions of various types, taking into account the characteristics of those involved (PC-16); to be able to choose means and methods of recreational motor activity for correction of the condition of those engaged in view of their age, gender, professional activity (PC-17); the ability to consciously use the means of physical culture as a factor of restoring working capacity, ensuring active longevity (PC-18); to implement health education programs for various contingents involved, including technologies for managing body weight, nutrition and the regulation of mental status (PC-19); the ability to organize and conduct tourist-ecological, tourist-sports and tourist-recreational activities for various groups of the population (PC-20). Our research is aimed at improving, modernizing and high practice-oriented component of recreational competence.

The purpose of the research: development and experimental substantiation of the modernized program on formation of recreational competence of future bachelors in physical culture.

Material and methods

Participants. The study involved students (n = 125, age 18-21) future bachelors of physical education.

Organization of the study. The base of the research was The Federal State Budget Educational Institution of Higher Education «Tchaikovsky State Institute of Physical Culture» (Tchaikovsky, Russia). In the period from 2014 to 2017 (2 to 4 years), in the process of training, the students of the experimental group (EG) used the modernized program for the formation of recreational competence, basing on basic and variable disciplines (health aerobics, theory and methodology of teaching tourism, children's fitness, physical culture on the basis of athletic gymnastics, the theory and methodology of aquafitness and gymnastics) presented in Table 1. The students of the control group (CG) were engaged in the traditional program (sports games as a means of recreation, theory and methodology of teaching tourism, gymnastics, track and field athletics, physical culture on the basis of athletic gymnastics, martial arts, Table 2).

Table 1. The program of the formation of recreational competencies in the experimental group

| Disciplines | Labor intensity (number of hours) | Formed competencies | Year |
|---|-----------------------------------|-----------------------|---------------------|
| 1. Recreational aerobics (Variable Discipline) | 72 hours | PC-1, 4; 15-18 | 2 year (3 semester) |
| 2. Gymnastics (section of health-improving gymnastics 36 hours: dumbbell exercises, industrial gymnastics, rhythmic gymnastics, fitball gymnastics) (basic) | 36 hours | GPC -2, PC -4, 16, 17 | 2 year (4 semester) |
| 3. Theory and methods of teaching tourism (Basic Discipline) | 72 hours | GPC-4, 7; PC-17, 20 | 3 year (5 semester) |
| 4. Children's fitness (variable discipline) | 72 hours | PC-17, 19 | 3 year (6 semester) |
| 5. "Physical Culture" on the basis of athletic gymnastics (basic discipline) | 72 hours | PC-15, 18, 19 | 4 year (7 semester) |
| 6. Theory and methodology of aquafitness (variable discipline) | 72 hours | PC-17, 18, 19 | 4 year (8 semester) |

Table 2. The program of the formation of recreational competencies in the control group

| Disciplines | Labor intensity (number of hours) | Formed competencies | Year |
|--|-----------------------------------|-----------------------|---------------------|
| 1. "Sports games" as a means of recreation (variable discipline) | 72 hours | PC -1, 4; 16-18 | 2 year (3 semester) |
| 2. Gymnastics (sports and health, traditional program) (basic discipline) | 72 hours | GPC -2, PC -4, 16, 17 | 2 year (4 semester) |
| 3. Theory and methods of teaching tourism (basic discipline) | 72 hours | OПK-4, 7; PC -17, 20 | 3 year (5 semester) |
| 4. Track and field athletics (variable discipline) | 72 hours | PC -15, 16, 17, 19 | 3 year (6 semester) |
| 5. "Physical Culture" on the basis of athletic gymnastics (basic discipline) | 72 hours | PC -15, 18, 19 | 4 year (7 semester) |
| 6. Martial arts (variable discipline) | 72 hours | PC- 5, 12, 18, 19 | 4 year (8 semester) |

At the end of the training, bachelors must:

- master the ability to organize and conduct children's leisure, tourist activities;
- be able to make a model of recreational fitness for preschoolers, schoolchildren, students and adults;
- conduct a class of the management of body weight;
- make an individual program of active rest, taking into account age, gender, level of physical readiness and features of professional activity;

- conduct a complex of industrial gymnastics, taking into account working conditions;
- compose a complex of athletic gymnastics to restore working capacity and strengthen the physical condition, taking into account age, gender, level of motor activity;
- develop, implement and adjust individual programs (projects) of recreational activities for various groups of the population, taking into account the socio-cultural, morphofunctional, age-gender and mental characteristics of those involved.

Statistical analysis. To determine the reliability of the results of the pedagogical experiment, the data were processed using methods of mathematical statistics. The procedure for determining the reliability of differences between the mean group values (arithmetic mean, standard deviation) was applied using the Student's parametric t-test, the non-parametric Wilcoxon test. The result was considered reliable at $P \leq 0,05$. The statistical processing of the results was carried out using a package of standard programs Microsoft Excel 2007.

Results

The conducted pedagogical experiment (Table 3) revealed the advantage of future bachelors of physical culture of the experimental group, in comparison with the control group in the ability to conduct a recreational activity ($P \leq 0,05$), the ability to compile an individual program of classes and nutrition, to solve situational problems in the preparation of health programs ($P \leq 0,05$), possession of methods for reducing body weight; knowledge of models of recreational activities for preschool children, schoolchildren, students, adults, and also in organizational skills (children's leisure, tourist activities, physical education classes, active recreation on water, industrial gymnastics with labor factors taken into account).

The obtained result is provided by the content of basic and variable disciplines developed by the authors in the context of short-term training, the form of conducting classes, their high practical and personal orientation, with an accentuation of training on health fitness facilities, which, according to polls in foreign and Russian publications, takes a leading position in an active rest, maintaining the state of health, ensuring active longevity, improving the athletic form and preventing obesity [26-31].

Table 3. Results of the formation of recreational competence of experimental and control groups

| Competence components (score) | CG ($X \pm \sigma$) | | EG ($X \pm \sigma$) | |
|--|-----------------------|-----------|-----------------------|-----------|
| | 2016 year | 2017 year | 2016 year | 2017 year |
| 1. Organizational abilities | 7,0±1,6 | 8,3±0,9 | 6,8±0,8 | 9,1±0,6* |
| 2. Purposefulness | 7,2±0,5 | 8,3±0,6* | 7,3±0,6 | 9,0±0,8* |
| 3. Ability to conduct recreational activities | 5,6±0,7 | 6,8±1,0* | 5,1±0,9 | 8,8±1,2** |
| 4. Knowledge of gender, age, and standard features in the preparation of the lesson | 6,4±1,3 | 7,9±1,6 | 6,0±0,8 | 9,2±0,6* |
| 5. Possession of techniques for weight loss | 4,9±2,2 | 6,12±1,7 | 5,2±1,2 | 8,9±0,8** |
| 6. Ability to spend children's leisure | 7,3±1,1 | 8,0±1,8 | 7,4±2,2 | 8,6±1,4 |
| 7. Ability to create an individual program of classes and nutrition | 4,5±1,4 | 5,9±0,8 | 4,8±0,7 | 9,4±0,6** |
| 8. Knowledge of models of recreational activities for preschoolers, schoolchildren, students, adults and those engaged in a special medical group | 6,5±0,7 | 7,6±1,0* | 6,0±1,2 | 8,8±0,9** |
| 9. The solution of situational tasks for the preparation of programs taking into account blood pressure, age, diseases, individual preferences, gender | 7,6±1,2 | 8,3±0,6 | 7,0±2,0 | 9,4±0,4** |

Note: \bar{X} - arithmetic mean, σ - standard deviation; * - reliability of differences ($P < 0,05$); ** - reliability of intergroup differences.

Table 4 shows the results of the professional significance of the development of recreational activity components in the experimental group.

Table 4. Professional significance of development of components of recreational activities in the experimental group (score)

| Stages of research | Athletic gymnastics | Aerobics | Aquafitness | Sport and health tourism | Children's fitness |
|--------------------|---------------------|----------|-------------|--------------------------|--------------------|
| | $X \pm \sigma$ | | | | |
| Before | 5,8±1,7 | 5,1±1,3 | 3,4±0,5 | 4,8±0,9 | 5,1±2,8 |
| After | 9,1±1,0 | 8,4±1,8* | 6,8±2,5* | 7,5±2,2* | 7,6±2,0* |

The study showed (Table 4) that at the beginning of the study, the assessment of the importance of recreational competencies in students is at a low level, and athletic gymnastics in the 10-point system is estimated at 5.8 points, aerobic - 5.1, aquafitness - 3, 4, sports and health tourism - 4.8 and children's fitness - 5.1. At the end of the study, the students of the experimental group assessed the significance and effectiveness of the presented training components in the field of recreation at a high level (6.8 - 9.1 points). The highest values of professional importance in athletic gymnastics - 9,1 points, health aerobics - 8,4 points, children's fitness - 7,6 points and sports and health tourism - 7,5 points. The professional importance of aquafitness doubled from 3.4 to 6.8 points, so the future physical culture staff noted that they practically did not represent aquafitness in

professional activity, at the end of the training they mastered animation on water, gymnastics in the water in the conditions of summer recreation for children, elements of aqua aerobics and material arts in the water environment, functional training in the water, recreational aquafitness program for those engaged in young and mature age. The positive attitude of the future physical culture staff is achieved through the improvement of training in the profile of professional activity, so the pedagogical activity of bachelors in the field of tourism is accentuated on the method of conducting a lesson with elements of tourism, carrying out the obstacle course and tourist rally, bike trip for students of different ages; coaching is aimed at the introduction of sports tourism in improving the physical preparedness of those involved, organizing the camping trip, the rules of behavior on the water in the summer camp; in the framework of recreational and organizational and managerial activities, the emphasis is placed on animation programs with elements of tourism, rafting, work on a climbing wall and an extreme park. Pedagogical activity in the field of health fitness presupposed a technique for conducting a physical education lesson with elements of dumbbell exercises, rhythmic gymnastics, aerobics, fitball gymnastics; coaching is aimed at increasing the physical fitness of athletes through fitness and functional training; in the framework of recreational and organizational and managerial activities, emphasis is placed on production gymnastics, taking into account working conditions; animation children's programs, the organization of the fitness section, the method of independent studies for people of different gender, age, health and physical fitness. It should be noted that high interest among future bachelors of physical culture in the developed training program was caused by the following forms of recreational activities:

- circular training for the strengthening of certain muscle groups or a comprehensive circular training;
- "rope course" as a form of teamwork, active recreation, corporate interaction, interpersonal communication, the course is conducted with tourist ropes, mainly in the park, forest zone;
- group fitness classes (health aerobics, power program, children's fitness, etc.);
- animation on the water (in resorts, sanatoriums, children's camps, fitness classes for women);
- sport orienteering as a means of recreation, sporting events, active recreation, increasing interest in sports and health tourism;
- individual training in athletic gymnastics to reduce body weight, correction of the ratio of fat and muscle components of the body.

Conclusions

The orientation of education on the formation of recreational competencies presupposes the creation of new disciplines, variational courses, and teaching technologies in which the graduate will be able to show activity in improving the population of the country, individualizing the training process, familiarizing with regular physical training. At the same time, the traditional program of training students of a sports college covers the competence of recreation insufficiently. Along with this, the conducted pedagogical experiment proved the effectiveness of the developed training program, revealed intergroup differences in the ability to conduct recreational activities, make up an individual program of classes and nutrition, as well as differences in the ability to solve situational problems in the preparation of health programs and understanding the significance and components of recreational preparation.

References

- Arzhanykh EV. The role of mentoring in the professional development of young teachers. *Psychological science and education*, 2017;22(4):27-37. doi: 10.17759/pse.2017220405
- Ansimova NP, Zolotariova AV, Lekomtseva EN, Razumova AB. A Computer Test as a Means to Assess Formation of the Teacher's Metasubject Competences. *European Journal of Contemporary Education*, 2017;6(4):627-635. doi: 10.13187/ejced.2017.4.627
- Antykov AV. The Role of tourism in the system of physical education. *Theory and practice of physical culture*, 2003;6:25-27. (in Russian)
- Akimova LA. Socio-cultural background of the future teacher's preparation for the formation of a culture of healthy and safe lifestyle of the student. *European Social Science Journal*. 2013;37(10):84-91. (in Russian)
- Aslakhonov CAM, Yakovlev YuV. The realization of the potential of physical recreation in a modern Russian society. *Scientific notes of the University. P. F. Lesgafit*, 2017;153(11):24-27. (in Russian)
- Aslakhonov CAM, Elmurzaev MA. The knowledge of the essence of physical recreation. *Scientific notes of the University. P. F. Lesgafit*, 2017;152(10):16-20. (in Russian)
- Burlacina OV, Latchook VN. Recreational tourism as a means of adaptive motor recreation. *Pedagogical diagnostics*, 2012;2: 63-71. (in Russian)
- Barbarash NA., Kuvshinov DYu. Motivating the population to a healthy lifestyle. *Bulletin of the Novosibirsk state pedagogical University*, 2016;1:100-108. doi: <http://dx.doi.org/10.15293/2226-3365.1601.09>
- Bendíková E. Curricular Transformation of Education in the Field of Physical and Sport Education in Slovakia. *European Journal of Contemporary Education*, 2017;18(4):410-417. doi: 10.13187/ejced.2016.18.410

- De Corte Erik. Innovative prospects of education and teaching in the field of higher education in the xxi century. *The issue of education.*, 2014;3:8-29. doi:10.17323/1814-9545-2014-3-8-29
- Emelyanova I, Teplyakova O, Boltunova L. The Students' Research Competences Formation on the Master's Programmes in Pedagogy. *European Journal of Contemporary Education*, 2017;6(4):700-714. doi: 10.13187/ejced.2017.4.700
- Elmurzaev MA, Dunaev KSH, Dunaev MK., Shaukhalov TC. Sports and recreational activities: concept, content, components. *Scientific notes of the University. P. F. Lesgafta*, 2017;143(1):227-232. (in Russian)
- Gudkova TV. Modern ways of integration of people with disabilities into social life. *Bulletin of the Novosibirsk state pedagogical University*, 2016;1:68-76. doi: <http://dx.doi.org/10.15293/2226-3365.1601.06>
- Gabaev YuA, Jirickova FD, Gebenova OD, Uzdenova FM. Competence model of preparation of bachelors of physical culture for recreational activity. *Scientific notes of the University. P. F. Lesgafta*, 2017;153(11):64-66. (in Russian)
- Gabdrakhmanov NC, Rubcov VA. Specificity of tourism development in small and medium-sized cities of Russia. *Service in Russia and abroad*, 2017;77(7):55-64. doi: 10.22412/1995-042X-11-7-5
- Izaak SI, Yudin AI. Modeling of the human resources potential of the sports industry. *Theoretical & Applied Science*, 2017;52(8):95-101. (in Russian)
- Kudin SF. Formation of selfregulation culture of physical education faculty. *Physical education of students*, 2016;1:49-54. <http://dx.doi.org/10.15561/20755279.2016.0107>
- Kharisov ID, Nenasheva AV, Aminova AC, Cieslicka MS, Musketa RK. Evaluation indexes of level of physical preparedness of students engaged in the powerlifting and street workout. *Man, sport, medicine*, 2017;17(1):67-78. doi: <http://dx.doi.org/10.14529/hsm170107>
- Lazarenko IR. Regional context of the design and implementation of the main professional educational programs in the pedagogical University. *Bulletin of the Novosibirsk state pedagogical University*, 2015;6:7-14. doi: <http://dx.doi.org/10.15293/2226-3365.1506.01>
- Matuleviciene E. Subjective opinions about the realities of modern physical education teachers and students. *Man, sport, medicine*, 2016;16(2):67-70. doi: <http://dx.doi.org/10.14529/hsm160207>
- Maslyak IP, Krivoruchko NV. Physical development of students of teacher training college as a result of exercises of cheerleading. *Physical education of students*, 2016;1:55-63. <http://dx.doi.org/10.15561/20755279.2016.0108>
- Malyshev AA, Khodasevich LS, Maznichenko MA, Romanov SM. Integration of Educational and Sports technologies in Youth Wellness Tourism. *European Journal of Contemporary Education*, 2016;18(4):452-463. doi:10.13187/ejced.2016.18.452
- Neumoeva-Kolchedantseva EV. Developmental Potential of Professional Test as a Method of Training Future Teachers. *Psikhologicheskaya nauka i obrazovanie*, 2017;22(6):34-44. doi:10.17759/pse.2017220603
- Oborin MS, Gvarliani TE, Nagoeva TA, Ponomareva MA. Preparation of Staff of Tourism-Recreational Sphere in Russia. *European Journal of Contemporary Education*, 2017;6(4):775-786. doi:10.13187/ejced.2017.4.775
- Ryzhkin YuE. To the question about the concept of the phenomenon of "Physical recreation". *Theory and practice of physical culture*, 2011;4:55-57. (in Russian)
- Rybakova EO, Shutova TN Recreational competence of future bachelors of physical culture. *Theory and practice of physical education*, 2017;8:15-17. (in Russian)
- Rybakova EO, Shutova TN The importance of fitness in recreational preparation of future bachelors of physical culture. *Izvestiya of the Tula state University. Physical culture. Sports*, 2017;2:93-101. (in Russian)
- Sharafeeva A B, Zagrevesky OI. Technology of formation of professional competencies in recreational activities of future specialists in physical culture and sports. *Bulletin of Tomsk state University*, 2012;361:153-156. (in Russian)
- Zelenin LA, Opletin AA, Panachev VD. Actualization of the concepts of recreation and rehabilitation in the formation of healthy lifestyles of young students. *Theory and practice of physical education*, 2018; 3: 29. (in Russian)
- Surnin DI, Usachev NA. The analysis of statistical data of staffing of the system of educational and recreational institutions of Togliatti in the field of physical culture and sports. *Scientific notes of the University. P. F. Lesgafta*, 2017;152(10):240-244. (in Russian)
- Vydrin VM. Physical recreation-a kind of physical culture. *Physical culture and health*, 2004;2:18-21. (in Russian)