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Igor Nikulin, Fedor Sobyanin, Alexander Voronkov, Aleksej Konik

RECREATION AND HEALTH-IMPROVING ATHLETICISM TRAINING OF STUDENTS IN HIGHER EDUCATION INSTITUTIONS

Popular means of physical culture in the youth are the power exercises used at athleticism training-spells, meant for health-improving, development of physical fitness, working capacity, decrease of psychoemotional stress. There was developed a special method for students trainings in recreation and health-improvement athletism with application of controlled and comfortable muscle loading for students taking into account their individual differences, abilities and requirements.

After experiment with Ruffye's test, anthropometry, Harvard step test, power exercises, health, activity, mood test provided and academic achievement data demonstrated significantly higher indicators in the experimental group compared with the control group. The developed technology can be recommended for training-spells of students both throughout educational process in semester, and during examinations when the academic load especially increases.

Key words: recreation, health, athleticism training-spells.

Review of contemporary sources. Development of scientific and technical progress, the appearance of new technologies causes the growth of a huge flood of information which gets to the content of higher education. This factor strengthens physical, intellectual, psychoemotional activity of students of higher education institutions. Students don't always cope with increasing academic loading successfully therefore they have overstrain, overfatigue or an organism disease.

To resist to the negative factors arising during the educational process, various means of physical culture are used and special training-spells with students are organized in higher education institutions. The analysis of special literature [1, 2, 3, 4], and questioning of students showed that the most popular means of physical culture among youth are the power exercises used at body-building training-spells. About 48% of the respondents interviewed by us want to go in for body-building to improve their health, to spend useful leisure-time, to improve the constitution, to resist to negative influence of an academic load on health.

However, body-building training-spells are not included in content of the high school program on physical culture; there is little literature recommendations about use of means and methods of athleticism for recreation and health-improving trainings of students of higher education institutions. Therefore relevance of this research is determined by the necessity of development of recreation and health-improving athleticism training-spells with students of the higher education institutions, intended for health-improving, development of physical fitness, working capacity, decrease of psychical tension.

Research goal. To develop and test experimentally the effects of recreation and health-improving athleticism trainings of students in higher education institutions.

Main text. Such research methods were used as: analysis of the literature, Ruffye's test, anthropometry, HAM (health, activity and mood) test, physical fitness test, modification Harvard step test [2] experiment, methods of mathematical statistics. Two groups took part in the experiment. In the control group (n = 40), students trained according to the training program «Physical culture» for higher education institutions without changes. In the experimental group (n = 40) power exercises with use of the method of repeated unlimited efforts, the method of «shocking of muscles» were included in the training-spells. The research was conducted on the basis of the Belgorod University of Cooperation, Economy and Law (The Russian Federation, Belgorod) from 2010 to 2012.

After experiment with Ruffye's test and modificational Harvard step test provided data showing significantly higher indicators in the experimental group compared with the control group.

Girth of shoulders, chest, thighs, and indicators of Quetelet index, measured at the end of the experiment, were significantly higher (P <0,01) in the experimental group of students.

Students significantly improved results in tests and doing exercises to show their strength capabilities: in pull-ups, in arm-pumping exercises, in bench-press lying on a horizontal bench, hand dynamometry, knee-bends on one foot, bending of the body lying for 30 seconds. In the experimental group, the results were significantly higher than in the control group (P <0,01).

Table 1.

Arithmetic mean and standard deviations for the applied tests in measuring of physical fitness and working capacity in the control (CG) and experimental (ExG) groups after the experiment (P <0,01).

Test	ExG	CG
Pull-ups (number of times)	13,40 (± 0,738)	8,23 (± 1,041)
Push-up (number of times)	41,06 (± 2,247)	28,85 (± 2,893)
Benchpress (kg)	77,48 (± 2,563)	63,87 (± 1,656)
Wrist dynamometry (kg)	47,65 (± 0,941)	43,12 (± 0,973)
Battement fondu (number of times)	12,53 (± 0,243)	8,36 (± 0,425)
Modified step test (conventional units)	24,12 (± 0,372)	20,93 (±0,489)

After finishing the pilot trainings higher indicators of health, activity and mood were in the experimental group compared with in the control group.

During the pedagogical experiment the students improve academic achievement.

The obtained data were based on detailed technology of planning of physical activity and rehabilitation, an individual approach to every student during 72 training-spells which have been carried out during the experiment. At the maximum loading during performing exercises heart rate reached 140-180 beats/min. Rest intervals between separate sets and repetitions were regulated by time of restoration of heart rate to the level of 90-100 beats/min. The pro-

gram of trainings in the course of the experiment was changed each 1-2 months to make their content various and intensify influence on the adaptive capabilities.

All this allowed achieving significant improvements in fixed indicators. When carrying out Ruffye's test students of experimental group significantly improved circulatory response to the dosed physical load. However, it doesn't indicate the full extent of physical working capacity. Data of step test give an opportunity to say about the actual improvement of physical working capacity as a result of the experiment.

Indicators of girth of shoulders, chest and thighs are higher in the experimental group compared with the control group. At the same time, there were no significant differences between indicators of girth of waist and hip. Probably, this fact is explained by the fact that changes in these parts of the body occur more slowly than in other parts.

Testing of students' strength qualities by means of control exercises showed an increase in those, which were directed on the development of strength endurance, dynamic strength of some muscle groups. Indicators of speed and strength capacity (standing long-jump) were less improved. Such tendency is explained by the specific selection of strength exercises in body-building and specific exercises included in the program of the experiment. It is possible that the change of the structure of strength exercises, their combinations at training-spells can change influence on physical qualities of examinees.

It is important that indicators of the psycho-emotional state of youth during our research were improved. This proves the universality of the influence of physical training on the human body. At the same time the level of physical load was defined, which was quite comfortable for students to feel satisfaction, enjoyment of physical activity at training-spells.

Conclusion. It is established in the research that strength exercises included in athleticism training-spells of students, can be used not only as means of sporting achievements, of body formation, but also can be with recreation and health-improving orientation. First of all, the value of such training-spells is to prevent the harmful effects of an increasing academic load on students' organism, to improve health, to develop physical fitness and to maintain psycho-emotional balance. It is very important that muscle loading must be strictly dosed, comfortable for students taking into account their specific features, opportunities and requirements. Only such approach will provide desirable improving and recreational effect. The developed technology can be recommended for training-spells of students both throughout educational process in semester, and during examinations when the academic load especially increases.

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Популярным средством физической культуры среди молодежи являются занятия атлетизмом с целью укрепления здоровья, повышения физической подготовленности, работоспособности и снижения психоэмоционального напряжения. Была разработана методика занятий студентов атлетизмом оздоровительно-рекреативной направленности с применением дозированной, комфортной нагрузки для занимающихся с учетом индивидуальных особенностей, возможностей и потребностей.

После эксперимента получены данные, свидетельствующие о достоверно более высоких результатах в экспериментальной группе по сравнению с контрольной по показателям индекса Руффье, антропометрии, гарвардского степ-теста, силовых упражнений, а так же по показателям самочувствия, активности, настроения и учебной успеваемости. Представлены рекомендации по силовым занятиям студентов оздоровительно-рекреативной направленности.

Ключевые слова: Восстановление сил, здоровье, атлетизм оздоровительно-рекреативной направленности.

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Andrey Zaikin, Elena Glavatskaya

STEP AEROBICS AT THE PHYSICAL EDUCATION LESSONS

An analysis of the literature, which provides an explanation of the origin and development of step aerobics is done in the article.

The positive impact of step aerobics on the bodies of schoolchildren is substantiated, methodical instructions for teachers of Physical Education during step aerobics lessons, are defined.

Key words: step aerobics, stress, teacher, methods, muscles.

Statement of the problem. Today it is necessary to improve traditional forms of becoming healthy and to introduce new forms and methods of health improvement, physical culture and sport activities. No one doubts the necessity of physical activity for human health. But how hypodynamia could be compensated, what is the load – it remains debatable.

To achieve definite results in the work on the body can be reached by using various means: racing, cycling, swimming, gymnastic exercises, aerobics.

The term "aerobics" originates from the word aerobic, which means "oxygen" (from Greek words "aero" – air and "bios" – life), was first introduced by Dr. K. Cooper, the famous American expert in the field of mass physical culture.

