

Shevchuk Andrii. Development of physical activity of higher educational institutions students in the process of recreational kayaking outdoor classes. *Journal of Education, Health and Sport*. 2017;7(11):364-373. eISSN 2391-8306. DOI <http://dx.doi.org/10.5281/zenodo.1219215> <http://ojs.ukw.edu.pl/index.php/johs/article/view/5417>

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part B item 1223 (26.01.2017).

1223 Journal of Education, Health and Sport eISSN 2391-8306 7

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The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 01.11.2017. Revised 12.11.2017. Accepted: 28.11.2017.

## Development of physical activity of higher educational institutions students in the process of recreational kayaking outdoor classes

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The article substantiates the method of recreational kayaking classes. Implementation of the developed methodology was carried out during the studying year with the change to individual classes during the vacation period. The proposed methodology included theoretical and practical material, as well as the means of medical and pedagogical control. It foresees a phased (including adaptation mechanisms) expansion and increase in the intensity of physical activity in outdoor forms of students' sports and mass exercises.

**Key words:** recreational kayaking, physical activity, students, higher educational institutions, outdoor classes.

**Introduction.** Physical activity is an inseparable part of the person's way of life, determined by the totality of movements which it performs in the process of vital activity [1, 2, 4, 6]. It is established that an important way to improve the performance of students' physical exercises is to improve them in the chosen

form of physical activity in accordance with the individual characteristics of the body [2, 3, 5, 7].

One of the perspective types of physical activity of students is recreational kayaking. The results of the research show that recreational kayaking is a new and effective means of improving the youth's health. Due to the comprehensive influence on the body, the health-improving orientation, this type of physical activity is universal not only for increasing morph functional qualities, but also for improving the psycho-emotional state of students. At the same time, the method of training, the dosage of physical activity in the process of students' classes with recreational kayaking was not the subject of separate scientific research.

**Research methods:** analysis of psychological, pedagogical and special literature, pedagogical observation, testing, questionnaires, pedagogical experiment, mathematical statistics. The experimental research base was Lesya Ukrainka Eastern European National University. 432 students from 1-4 studying years of the main medical group of full-time education took part in research and development.

**Research results.** The results of the study indicate that the motivation of the physical condition is high among students: the increase of physical activity level, support of physical form, development of physical qualities and physical skills. This motivation is crucial for more than 50% of respondents. Relax motives were chosen by 12.74% of boys and 9.83% of girls. The health motive is important for 12.8% of boys and 15.53% of girls. The role of the "extension of knowledge and interests" motive is insignificant among students (2.1%-2.5%). During the training, the structure of motives is practically unchanged. In general, the motivation to increase physical capacity is a good basis for future employment with recreational kayaking.

An important factor in health improving is the lifestyle of students. It is disquieted that most respondents have bad habit. Thereat, the use of low-alcohol drinks students do not consider as a bad habit. From the first to the third year of study, the number of male respondents who smoke and drink alcohol increases. At 3-4 years, the proportion of students with bad habits is much greater than at the beginning of education.

According to the analysis of ambulatory cards, students most often have ENT diseases, nerve diseases, and cardiovascular diseases. ENT disease is represented by respiratory infections, bronchitis, and pneumonia, which is often a complication of defective respiratory infections. From 1<sup>st</sup> to 4<sup>th</sup> years of study, the proportion of students with depressive states and neuroses, rheumatic lesions, arterial hypo- and hypertension increases. Students from the 1<sup>st</sup> to the 3<sup>rd</sup> year of study tend to grow diseases of the respiratory, nervous and cardiovascular systems.

The results of the study indicate that the average values of measurement of body length, body weight, mass-growth calculations of students correspond to age standards. The normosthenic type of the body structure is noted among boys of 3-4<sup>th</sup> studying years and among girls of the third year, asthenic among boys and girls of the first-second years of study and girls of the fourth year.

During the first studying year the results of physical activity tests are improving. The greatest positive dynamics is distinctive for development tests of strength and flexibility, insignificant for tests for the development of endurance, speed and agility. This is confirmed by the results of previous studies. During the second year of study, the positive dynamics of the results is negligible or varies negatively. From the third to the fourth year the negative trend of development of all physical qualities was noted.

Young men, compared with girls, have higher systolic blood volume, minute blood volume and left ventricular myocardial capacity, and girls have higher general peripheral resistance. The least deviated from the norm were

blood pressure, systolic and minute blood volumes among the students. The most closely approximated to the norm indicators are recorded in the second year. So, students have a lot of hemodynamic indicators do not deviate from the age norm, but they have a wide confidence interval.

The value of the Stange sample test for boys increases from the first to the fourth year of study, while the girls of the fourth year, it decreases somewhat. Indicators of the Genci test among the boys are the highest during the second year and among the girls during the third. The largest increase in the indicator was noted in both cases from the first to the second years. In the gender aspect, the duration of hypoxic samples is higher among boys.

The analysis of volumetric indices of the respiratory apparatus of the students showed that they tend to increase from the first to the second year. During the third year, volumetric indicators begin to decline. This trend is also observed among the fourth year. Boys have higher values of vital capacity of the lungs, forced vital capacity of the lungs and volume of forced exhalation than the corresponding indicators of girls.

High-speed breath rates from the first to the second year have a positive tendency for change. On the second year they are the largest, and then gradually decrease to the fourth year. The maximum volumetric exhalation rate of 25, 50 and 75% lung capacity, peak volume exhaust velocity and average volume expiratory velocity of boys are slightly higher than that of girls.

The definition of the level of physical activity of higher education institutions students was conducted on the basis of the international physical activity questionnaire (IPAQ). According to the obtained data, 75.9% of boys and 68.2% of girls have a low level of physical activity, the average level is 21.3% and 29.5%, and the highest is 2.8% and 2.3% respectively. Analyzing dynamics of physical activity of boys during the study, it turned out that the highest percentage of first-year boys have a low level of physical activity (81.7%), in the second year of such students is 74.4%; the third - 76.1%, and the fourth – 71.1%. The high level of

physical activity is most evident among the third year students (3.9%) and fourth-year students (3.7%). A similar trend was found among girls (Table 1).

*Table 1*

**Physical activity dynamics of higher educational institutions students, %**

Year of studying	gender	Physical activity level		
		high	middle	low
1	boys	2,1	16,2	81,7
	girls	1,6	26,7	71,7
2	boys	1,8	23,6	74,4
	girls	1,9	32,1	66,0
3	boys	3,9	20,0	76,1
	girls	3,7	27,8	68,5
4	boys	3,7	25,2	71,1
	girls	1,8	31,5	66,7

The results of the study provide an opportunity to state that the high level of physical activity of students during training is reduced. The chosen profession does not significantly affect the daily number of youth locomotives. The detected level of physical activity is not sufficient and does not contribute to maintaining the proper functional state of the body.

Consequently, the study leads to the need to use recreational kayaking exercises on the basis of optimal programming of loads in accordance with the physical condition of students of higher education institutions.

Taking into account the results of the study, a methodology for recreational kayaking was developed. Implementation of the developed methodology was carried out during the school year with the transition to independent classes in the vacation period. The proposed methodology included theoretical and practical material, as well as the means of medical and pedagogical control. It provided for the step-by-step (taking into account the adaptation mechanisms) the expansion and increase of the intensity of physical activity in outdoor forms of sports and mass studies. The experimental method was aimed at improving physical qualities, improving the general physical state, promoting healthy lifestyles and motivating exercises with physical exercises.

Classes were held three times a week. The method was implemented during three stages.

At the first stage (introductory, 11 weeks), systematic exercises were conducted to improve physical qualities aimed at the comprehensive and harmonious physical students' development. The content of the classes was focused on the gradual increase of functional abilities and general working capacity, students' interests in motor activity, an optimistic mood creation, which significantly increased the efficiency of occupations, thus creating the basis for special physical fitness. The main objectives of that phase were to develop the physical qualities of youth, increase the protective forces and resistance of the organism to adverse environmental factors. Along with systematic physical activity, students studied the theoretical foundations of water tourism, safety rules, and the basics of self-control.

The second stage (preparatory, 17 weeks) provided for swimming and special physical training. The need to engage in swimming was conditioned by the vital necessity of it during recreational kayaking. It has also a great applicable and health value. Swimming lessons were conducted 2 times a week. Taking into account the ability (not skills) of students to swim and the level of swimming training, a differentiated approach was applied. For students who can not swim (62.96%), they used special exercises for lifting water and training their ability to feel water and perform simple movements in it. After that, the study of individual swimming movements, the harmonization of these movements and the connection of them in a holistic action. Swimming was studied in the following sequence: studying the legs movements, studying the techniques of breathing, harmonizing the legs movements with breathing, studying the hands movements, coordinating the movements of hands and breathing, harmonizing the movements of the hands and feet while breath holding, studying the mode of navigation in general. In accordance with the laws of the formation of motor skills three stages of swimming training (initial, in-

depth learning, consolidation and improvement), differing tasks, means and methods of training were identified.

Students who were able to swim fixed their skills, corrected superfluous movements, unnecessary muscular tension. The choice of optimum intensity and duration of training load was determined by the level of physical condition of students and the motivation for sports and recreation activities. Individualization of training loads was carried out due to changes in the volume and intensity of physical activity, rest duration, conditions of physical exercises.

In addition, we had classes for the development and improvement of special physical qualities and coordination motor activities. The theoretical training included the learning of the applied importance of swimming, the characteristics of equipment for recreational kayaking. Considerable attention was paid to the formation of self-control skills among students.

In the third stage (basic, 13 weeks) they mastered and refined the technique of recreational kayaking on the open water. The initial course on kayak management included theoretical and practical classes in the following spheres: the ability to properly hold the oar and determine its proper grip on the oars; ability to balance the kayak; main types of roughing: straight, arc, reverse; kayak management: turning, course correction, kayak stop, berthing, landing.

An important component of kayaking is teaching students to overcome obstacles on the water route. Adhering to the sequence and availability of the formation of motor skills, the teaching method involves performing exercises underwater; use of object orientations: motion limiters, direction indicators, catch holders; integral execution of motor activity on the basis of conscious control of spatial, temporal and dynamic characteristics of equipment; improvement of the rhythm of action, free and smooth execution of movements; variable execution of motor action.

To support the achieved level of organism functioning, the optimization of the training process was carried out by one-day alloys on the river Styr. After

the main stage completing, detailed instruction was provided on independent classes during the vacation period.

Experimental testing has shown the high efficiency of the developed methodology of training of military-applied semifinals among senior pupils, which is the basis for its wide introduction into extra-curricular work of general educational institutions.

**Conclusions.** The method of motor activity development among students of higher educational institutions in the process of recreational kayaking in non-auditing activity is developed, including tasks, means, methods, pedagogical conditions of training, physical loads measuring, requirements for control and self-control. It provided step-by-step (taking into account the adaptation mechanisms) expansion and increase of the physical activity intensity in the extracurricular forms of sporting and mass studies.

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