

Organizational and curricular support and efficiency of educational and health-improving activity complexes in the physical education process of students

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Purpose: to develop organizational and methodological support of the activity of educational and health-improving complexes in the physical education process of students in physical education and to test its effectiveness.

Material & Methods: questioning with the purpose of determining the motivation of students, their observance of a healthy lifestyle, the peculiarities of leisure activities; testing the level of theoretical knowledge of students; G. L. Apanasenko methodology (2011) to assess the level of physical health. The pedagogical experiment involved 161 students who studied at the I–IV courses of the University of the State Fiscal Service of Ukraine.

Results: pedagogical conditions that determine the participation of students in extracurricular activities in physical education are revealed.

Conclusion: the positive influence of the introduction of the model of the activity of educational and health-improving complexes on the degree of involvement of students in extracurricular activities has been established, in turn, has helped to raise their level of health, theoretical awareness, motivation and skills of leisure.

Keywords: physical education, students, educational complex, motor activity.

Introduction

The current system of physical education within the framework of extracurricular activities requires the development of new scientific approaches, not only in methodological, but also in organizational aspects [7; 10], which is emphasized by the introduction of separate norms of the law of Ukraine "On Higher Education", according to which physical education was assigned to non-mandatory disciplines and in some universities is outside the educational process [8]. The necessity of carrying out work in this direction is emphasized by the results of research conducted by scientists, it shows that only a small number of students attend physical education classes on the basis of a university outside of school hours, in addition, most note their monotony, declarativity and inconsistency with the current needs of the younger generation [1; 4; 7].

One of the ways to solve the problem of optimizing the motor activity of students can be the activation of club forms of physical education, as a basic link in organizing and conducting classes outside the academic schedule, namely, the activities of the relevant structural units – training and recreation complexes, which will provide variability and high efficiency the process of physical education [2; 3]. This is also stated in the recommendations on the organization of physical education in higher education institutions, developed by the Ministry of Education of Ukraine, according to which the organization of club activities is considered as a basic model for ensuring the teaching of physical education at the proper level [9].

This practice is also found in the works of Ukrainians scientists. In particular, V. B. Bazilchuk [3] in his studies justifies the structure of the physical education of students, which, in addition to the Physical Education Department and the sports

club, including a sports and fitness center and an educational sports and recreational complex, whose main goal is the development of sports in the university, health promotion, the formation of a healthy lifestyle, the training of highly qualified athletes, the promotion and popularization of various sports among students. Work of S. V. Karolinsky [6] is devoted to the problem of searching for an effective implementation of the club form of the organization of physical education. Author substantiates the concept of the club form of organization of extracurricular activities of students, which is based on the maximum consideration of physical culture and health and sports interests of students, the level of their physical condition, the experience of motor activity and the existing material and technical base of the educational institution.

However, in the above-mentioned works, the authors only declare the existence of such club structures on the basis of the educational institution, partially describing only some aspects of their software, at the same time, in the existing scientific-theoretical literature, there is practically no fundamental system research on the definition of organizational and methodological support and pedagogical conditions of activity educational and recreational complexes in the process of physical education [4].

Relationship of research with scientific programs, plans, themes. The work was carried out in accordance with the thematic plan of research works financed from the state budget of the Ministry of Education and Science of Ukraine on the topic: "Historical, theoretical and methodological foundations for the formation of recreational activities of various population groups" (State registration № 0112U007808) and in accordance with the plan of scientific work NUPESU for

2016–2020 on the theme "Theoretical foundations of recreational and recreational motor activity of various population groups" (State registration № 0116U001630).

The purpose of the research: to develop organizational and methodological support of the activity of educational and health-improving complexes in the physical education process of students in physical education and to test its effectiveness.

Material and Methods of the research

To solve the tasks set in the work, the following methods were used: theoretical analysis of special scientific literature and documentary materials, modeling, sociological, pedagogical (observation, testing, experiment) research methods, expert evaluation, methods of determining health level, motor activity, methods of mathematical statistics. The questioning of students was conducted with the purpose of determining their attitude to the organization of extracurricular classes in physical education, their motivation, observance of a healthy lifestyle, and particular leisure activities. Testing the level of knowledge of students was conducted to assess their theoretical awareness. An expert evaluation was conducted with the aim of determining the criteria for the effectiveness and system-forming directions of the training and health complexes. G. L. Apanasenko's method (2011) was used to assess the level of physical health of students. The pedagogical experiment was conducted in two forms (ascertaining and conversion). In the ascertaining experiment, 161 students participated in the I–IV courses. The indicators of the level of physical health, motivational factors, the attitude of students and the degree of their involvement in extracurricular physical education classes were studied, according to which the effectiveness of such studies was determined. Conversion experiment was conducted with the students of III-IV courses in the number of 80 people. The purpose of the experiment was to determine the effectiveness of the introduction of the

model of the activity of the educational and health complex in the process of extracurricular work in physical education.

Results of the research and their discussion

A thorough analysis of literary studies and practical experience in the implementation of the process of physical education in higher educational institutions has allowed us to determine the pedagogical conditions for increasing the effectiveness of extracurricular activities of students, among which the activities of the relevant departments and structures of the university, which will assume the responsibility of organizing active leisure of students; the refusal to unify the development of program material, the creation of a number of alternative types of occupations, taking into account regional characteristics, traditions and material support of HEIs, which will contribute to the formation of positive student motivation; creation of conditions for provision of regular motor activity at the time of vacations; ensuring accessibility of classes for all categories of students, regardless of their level of physical fitness and motor experience; development of methodical support of theoretical training in the framework of extracurricular activities; development and implementation of mechanisms for attracting additional financial resources, which will be directed at raising the pay of teachers, improving the material and technical base, purchasing new inventory, etc. [2–5]. Obtained results are the basis for the model of the activity of educational and health-improving complexes on the basis of higher educational institutions, which provided for the development of organizational and methodological support and criteria for the effectiveness of their activities and included experimental approbation in the educational process. Developed model included the following blocks: definition of the purpose, content, tasks, directions and principles of activity, criteria for the effectiveness of pedagogical influence, the mechanism of implementation and conditions for effective implementation (Figure 1). The organizational support of the complex included appropriate resource support (regulatory

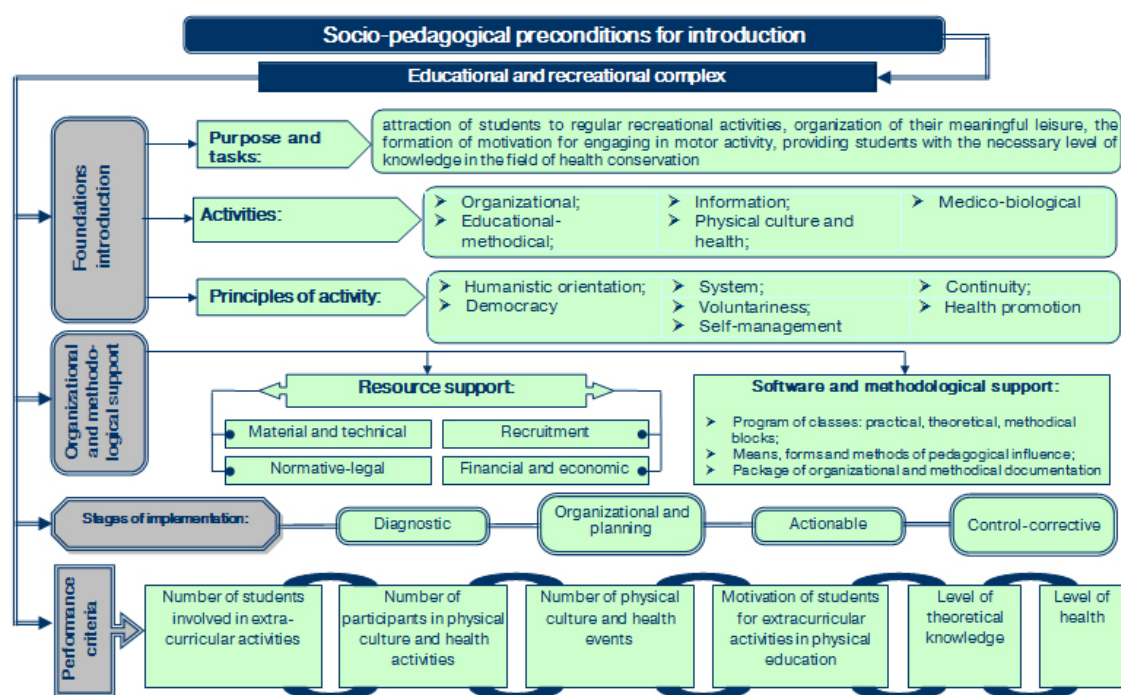


Fig. 1. Organizational model of the activity of educational and health-improving complexes in the process of physical education of students

legal, financial and economic, personnel, material and technical).

Methodical support provided for the development of program material that contained practical, theoretical, methodological blocks, the definition of the main aspects of providing educational and recreational activities on the basis of complexes, a package of relevant documentation, the selection of adequate forms, means and methods of pedagogical influence.

Educational and health complex should be regarded as a non-profit organization of physical culture, the club form of the organization, which provides extracurricular work in physical education and carries out its activities on the basis of relevant regulatory documents (regulations, orders, and others). Purpose of the complex is to attract a wide range of students to extracurricular forms of organizing recreational activities, organize their content leisure and provide students with the necessary level of knowledge.

Educational and health-improving complex carries out its activity in the following directions: organizational (planning, organizing and conducting recreational activities), educational and methodological (carrying out educational activities to improve the level of knowledge and skills, the level of physical preparedness of students), information, fitness and health physical activity according to the calendar plan), medical and biological (monitoring of health indicators of students both at the initial stage, and in the lessons).

Practical component of the model developed by us is the program of classes on the basis of the educational and health complex, which took into account the motivational demands of students, the peculiarities of the organization of the educational process and leisure activities, as well as the possibilities of its implementation in the conditions of the pedagogical process and provided for the conduct of classes during extracurricular time.

Program consisted of three interrelated blocks: theoretical, practical and methodical. The health-improving orientation of classes on the basis of the complex was provided by the use of innovative types of motor activity, in particular, fitness tools (functional training, crossfit, various types of group programs, training in the gym), the choice of which was due to the availability of their practical implementation, significant health potential, a wide range of means used by the possibility of differentiating loads and matching students' interests. Need to introduce theoretical training in the framework of the activities of the complexes was due to a number of provisions: the lack of training in some educational institutions, the physical education in the list of optional disciplines, the low level of theoretical knowledge of students, the lack of skills for self-mastery of knowledge. Theoretical and methodical preparation of students was carried out using interactive teaching methods in the form of workshops, information messages, round tables, seminars, etc.

We also identified organizational reserves to improve the effectiveness of the complexes. With the purpose of targeted use of available funds, we proposed a scheme for managing the activities of sports facilities, which provided for planning their activities, taking into account the simultaneous and daily capacity, the load factor of the structure and the time of its use during the day, week and year. Possible ways of attracting

additional financial resources, including the provision of physical education, counseling and counseling services to various categories of the population, including university staff, on a paid basis, which will allow partially to pay employees, to update the existing material and technical base, to conduct events propaganda and informational character, to carry out advertising, propaganda, publishing activity. Implementation of the personnel policy within the framework of the complex is aimed at improving the skills of specialists, attracting leading specialists of the industry on the basis of hourly wages, the introduction of a differentiated wage system.

Mechanism for introducing the model of the activity of the health-improving complex included several stages:

- diagnostic – collection and processing of primary information, implementation of complex pedagogical, functional and medical-biological diagnostics of students, conducting sociological studies, studying the characteristics of the study contingent, taking into account their needs, motives and interests, learning and recreation features, analysis of results;
- organizational and planning – setting goals, objectives, developing a plan of measures and implementation time, selecting appropriate tools, forms and methods of pedagogical influence, developing appropriate documentation, software and methodological support, organizational support, a system of interaction with other actors;
- activity – implementation of the developed program of activities, carrying out all types of work in these areas;
- control and correction – development of a monitoring system for implementation, analysis and synthesis of information received, formulation of conclusions, appropriate correction of management actions.

The criteria for the effectiveness of the complexes were determined by the results of a generalization of the experts' opinions ($W=0,71$, $p<0,05$) and included an estimate of the number of students involved in the activities of the complexes (35,0%), students' health (22,5%), the level of theoretical knowledge (12,5%), motivation of students (12,0%), the number of physical culture and sports and mass events held on the basis of the complex, the number of participants (10,0%).

Assessment of the effectiveness of the introduction of the health-improving complex was carried out based on the results of the conducted pedagogical experiment lasting one academic year, which was conducted with the students of III–IV courses of the National University of the State Fiscal Service of Ukraine.

The obtained data testify to the dynamics of growth in the number of students involved in extracurricular activities, by 11,0% among boys and 20,0% among girls. According to the results of the preliminary study, out of those students who attend classes outside of school hours, 46,0% of the boys and 52,0% of the girls noted that they attend classes occasionally and accidentally. Introduction of our model allowed to reduce these indicators to 29,0% for boys and 18,0% for girls. Analysis of the physical culture, health and sports events on the basis of the educational institution showed an increase in their number from 5 to 17 in comparison with the previous academic year, as well as an increase in the number of their participants.

After the experiment, there was a significant increase in the level of theoretical knowledge of students, as evidenced by

Table 1

Changes in indicators of the physical state of students before and after the pedagogical experiment (n=40)

Indexes	Before experiment				After experiment			
	Girls (n=20)		Boys (n=20)		Girls (n=20)		Boys (n=20)	
	\bar{X}	S	\bar{X}	S	\bar{X}	S	\bar{X}	S
Body mass index, kg	22,6	2,1	24,3	3,1	21,3*	1,8	24,5*	2,5
Strength index, %	49,4	6,7	63,2	5,6	52,0*	6,2	70,7*	5,4
Vital index, ml·kg ⁻¹	44,3	4,0	52,1	4,2	47,9*	3,7	59,5*	3,8
Robinson index, c. u.	91,4	3,4	89,5	4,1	86,7*	3,2	81,1*	3,6

Remark. * – changes in the indicator as a result of the pedagogical experiment are statistically significant at the level of $p < 0,05$.

a decrease in the number of young men with a low level of knowledge of 55,0% to 42,0%; among girls – from 34,0% to 29,0% due to their transition to a higher level – satisfactory. Number of boys who have a sufficient and high level of theoretical knowledge has grown from 2,0% to 7,0%, and the number of girls who have received the same rating, – from 5,0% to 13,0%.

Assessment of the state of health of students was carried out by us taking into account the body weight, the functions of the cardiovascular system, carpal dynamometry, vital capacity of the lungs and the calculation of the corresponding indices (Table 1).

After the completion of the experiment, a positive trend was established in the values of the functional activity of the students' body, namely: the calculated indices of the Robinson index both in the group of girls and boys decreased reliably, became a characteristic sign of optimizing the activity of the cardiovascular system ($p < 0,05$). Also, the body mass index in the group of girls is characterized by positive dynamics. So, the body mass index values (from $22,6 \pm 2,1$ kg to $22,3 \pm 1,8$ kg) significantly decreased, as much as possible with the results of the norm ($p < 0,05$). A reliable increase in the calculated indices of the force and vital indices was also established ($p < 0,05$). In general, the level of physical health of both women and boys has improved significantly (Figure 2).

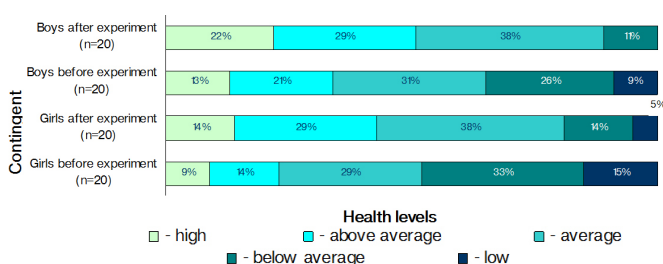


Fig. 2. Dynamics of indicators of physical health of students by the method of G. L. Apanasenko, 2011 (n=80)

In 64,0% of the girls and 59,0% of the boys, a transition to a higher level of physical health took place. At the end of the

experiment, we observed a decrease in the incidence of illness among students: the number of girls and boys who did not get sick once during the experiment increased by 12,0%. At the same time, the number of students and students decreased significantly, they ached more than 3 times a year. Indicators of the breadth of motivation have undergone significant changes. So, the number of motives, students choose as leading, has increased. More significant for students, except for a group of health and aesthetic motives, were psychological motives associated with gaining pleasure from classes, switching attention, as well as cognitive motives.

Conclusions

In the course of the research, the model of the activity of the health-improving complex was developed and scientifically justified, its organizational and methodological support was determined in the process of extracurricular studies of students in physical education. Transformational pedagogical experiment allowed to establish that the proposed model, the practical component of which is the program of organizing physical culture and health classes using modern fitness programs of various orientations, in conjunction with educational, recreational and information activities can ensure the formation of a positive attitude of students to their health, as evidenced by an increase in the number of students involved in extracurricular activities in physical education, raising their theoretical awareness and reducing the incidence of diseases. The positive tendency of the indices of the functional activity of the body of students was also established, namely: significantly ($p < 0,05$), the body mass index among students decreased, as well as the calculated values of the Robinson index; increased the value of the vital index; the value of the indicator of the strength index of students increased. The level of physical health of both girls and boys has improved significantly, in general, 64,0% of girls and 59,0% of boys have experienced a transition to a higher level of physical health.

Prospect of further research is the scientific substantiation of new approaches to the improvement of club forms of physical education in general educational institutions.

Conflict of interests. The authors declare that no conflict of interest.

Financing sources. This article didn't get the financial support from the state, public or commercial organization.

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Received: 05.11.2017.

Published: 30.12.2017.

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