Improving the efficiency of physical training in the conditions of free choice of sport by students of economic specialties

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Abstract—The new educational standard with the development and implementation elective disciplines of physical culture and sports in the educational process is created to change the attitude of students to the previously established system of physical culture. Students of higher education institutions have the opportunity to exercise free choice of sport, such recreational activities that meet its interests and needs. We conducted a study to assess the effectiveness of training in these disciplines.

Keywords—physical culture, elective disciplines in physical culture and sport, health, health aerobics, physical activity, physical fitness

I. INTRODUCTION

In connection with the global expansion of the information field of modern physical culture is characterized by a high intensity of learning innovative methods and means of self-education, self-improvement and self-healing throughout the training at the University. It is aimed at the formation of the value attitude of the student's personality to health.

Value attitude of students to their health and the health of others is formed on the basis of free and informed choice of social values and activities of health orientation. The position of the student as a subject of self-recovery is determined by the steady interest in vale logical knowledge, the need for a healthy lifestyle, the attitude to yourself as a subject of your own life, the ability to set goals, active participation in health activities, the desire for self-education and self-improvement [1].

Consequently, the process of physical education in high school should be based on the manifestation and maintenance of interest, regular satisfaction of needs and the acquisition of strong habits of students to self-systematic physical education. At the same time, the student himself is a key figure in the process of preserving and strengthening health, showing the desire and activity in the independent choice of types and means of health activities aimed at improving physical condition, physical fitness, maintaining a healthy lifestyle.

Unfortunately, the current system of education does not fully contribute to the effective construction of a holistic process aimed at improving the level of motor activity and physical fitness of students. This is evidenced by the outdated and in need of major repairs of the material and technical base, superficial medical care, high neuro-psychic stress and insufficient amount of scholarships, forcing students to work in their free time, as well as not always perfect teaching methods.

The solution to this problem should be sought in the optimization of University physical culture through the introduction of the educational process of various types of physical activity and sports, taking into account the individual interests and needs of students. In this case, the student is given the opportunity, in accordance with the personal system of values, to define goals, choose more appropriate types of health activities and actively implement their plans to maintain and strengthen health, the development of certain physical and psychological qualities in the process of self-improvement.

In recent years, the interest of young people to engage in various modern types of motor activity that contribute to the rapid recovery of strength, the acquisition of sports toned body shape and health promotion has increased significantly. Opened everywhere fitness club, gyms, numerous festivals, conventions, workshops, training courses for young teachers, which proves the increased interest of people and the younger generation to offer the modern fitness systems which are based on health aerobics.

Classes of health aerobics are emotionally rich, characterized by dynamic or soothing music, ease of development and variability of the means used the possibility of mastering dance movements, plasticity of their implementation. Health-improving aerobics contributes to the achievement of socially significant results - health, physical development, culture of movements, bodily aesthetics, and education of psychological qualities necessary to overcome various obstacles in life in the implementation of new victories.

The purpose of the study is to assess the effectiveness of elective disciplines in physical culture in the conditions of free choice of the sport.

Targets of the research:
1. To determine the attitude of students to the proposed system of free choice of sport in physical education.
2. To find out the types of physical activity preferred by students at educational occupations by physical culture.
3. To analyze the effectiveness of training on the chosen type of physical activity.

II. METHODS AND BASE OF THE RESEARCH

The study was conducted in 3 stages:
1) analysis of the theoretical material on this problem, the definition of the purpose, objectives and base of the study;
2) preparation of the questionnaire, selection and carrying out control tests for students;
3) processing and analysis of research results.

To do this, a survey was conducted of girls enrolled in 1-3 courses in the field of "Economics" and "Management" in the number of 107 people at the beginning and at the end of the school year.

In accordance with the modern requirements of the new educational standard, the process of physical education of students at the Vologda state University consists of two sections of training in the disciplines of "Physical culture and sport" and "Elective disciplines in physical culture and sports". At the first and second courses it is allocated for discipline "Physical culture and sport" on 36 educational hours in a year. The remaining 100 hours of each course of study are allocated to "Elective disciplines in physical culture and sports", based on the free choice of students of the proposed sports (athletics, basketball, volleyball, handball, football, skiing, gymnastics, aerobics, table tennis and Darts). Within three years of study at the University classes in the above disciplines are held twice a week. In the third year students are engaged in the selected sport throughout the school year.

To study the attitude of students to the introduction of elective subjects in physical education, the questionnaire was aimed at identifying the subjective assessment of the respondents of the studied problem. The effectiveness of physical training is determined by the achievement of students such an effect, which increases the interest and desire of students to master the knowledge of health training, compliance with a healthy lifestyle. Thus their physical and psychological health is stabilized and improved, attendance of educational occupations by physical culture and independent occupations by physical exercises increases, the level of physical readiness of the trained promoting development of physical qualities increases.

III. RESULTS

As a result of the survey it was found that the vast majority, 92.5% of respondents, are impressed by the possibility of self-selection of the desired sport in physical education, because it increases the interest in such activities and the desire to perform prolonged physical activity. 7.5% of students showed willingness to engage in any sports in accordance with the curriculum.

After reviewing the questionnaire list of proposed sports for physical education, 57.7% of respondents preferred to engage in health aerobics, 28.9% of respondents – volleyball, 6.4% of respondents – athletics, 4.3% of respondents opted for basketball, 2.1% of respondents - ski racing and 1% of respondents chose Darts.

As the survey showed, the majority of girls answered in favor of health aerobics classes. Considering their opinion, it is the most available popular and interesting type of physical activity by means of which it is possible to realize the desires (to lose weight, to get a sports figure, to learn to move under music). Overweight and the formation of a beautiful shape is the most valuable incentive for health aerobics.

A significant part of the respondents made a choice in favor of health aerobics, so the further part of the study took place with this group of respondents.

The curriculum of health aerobics at the University is characterized by accessibility, emotionality and the ability to adjust the content of classes depending on the interests and physical fitness of students. Classes were held twice a week for 1 hour 20 minutes with the obligatory modern music. Each lesson was divided into components: preparatory (warm-up), main and final.

In the preparatory part lasting 20 minutes, the following tasks were solved: to give a target setting for the implementation of the forthcoming work, to warm up and prepare for the main part of the lesson the muscles, ligaments and joints of the whole body, gradually increasing the pulse of students.

The content basis of the complex aerobic exercises were grouped together ligaments of the basic elements, which were performed by students under the musical accompaniment with a gradual increase in the amplitude of movements. These include a wide variety of all kinds of steps, running exercises on the spot and with movements, squats, alternately lifting the legs, swings and lunges with legs, jumps with a change of position of the legs, counter-moves, cross and various dance movements (salsa, Zumba, cha-cha, hip-hop, etc.).

In the main part of the lesson, the following tasks were solved: increasing the pulse to the optimal level; increasing the functionality of the cardiovascular, respiratory, muscular systems of the body; performing physical activity of medium and high intensity (depending on the purpose of the lesson and the level of physical fitness), requiring optimal or maximum energy consumption. To achieve the maximum effect, strength exercises with additional weights were widely used, aimed at the development of the abdominal muscles, back, shoulder girdle, arms, legs, i.e. on the right formation and strengthening of the muscles of the whole body.

In the final part (10-15 min), in which there is a gradual transition from high-intensity movements to strength exercises at a low rate, the problem of gradually reducing the heart rate to a level close to normal. Stretching exercises (stretching), muscle relaxation, breathing exercises and coordination exercises at a slow pace were used.

Basically, the following means of health aerobics were used.

1. General educational exercises.

In the standing position:
- exercises for arms and shoulder girdle in different directions (lifting-lowering, bending-extension, arcs and circles);
- exercises for the body and neck (tilts and turns, arc forward);
- exercises for legs (lifting-lowering, bending-extension in the knee and ankle joints, half-squats, squats, half-falls, lunges).

In sitting, lying and kneeling position:
- exercises for feet (alternate and simultaneous flexion and extension, circular motion);
- leg exercises (flexion-extension, lifting and lowering, drain-casts, leg swings);
- exercises for abdominal muscles (lifting-lowering the upper body, bending-extension of the trunk, the same with the rotation of the trunk, raising-lowering, mixing-breeding bent and straight legs);
- exercises for the back muscles (lifting and lowering of the arms and chest, lifting and lowering of the legs, the simultaneous lifting and lowering of the upper and lower extremities arms and legs, elongation of the body) [2].
2. Stretching:
- for neck muscles standing sitting (bending, turning, pulling forward and upwards, overcoming the resistance of hands front-to-rear);
- for pectoral muscles and shoulder girdle standing (alternately withdrawal of straight and bent arms to the sides, back with the other hand, simultaneous and alternate reduction of hands behind the back, stretching and flexing in the thoracic region, slopes);
- for the abdominal muscles while standing, lying down (stretching of the body along the entire length)
- for the muscles of the thigh and foot standing, lying (lifting straight or bent knee legs with holding hands in front and behind, forward tilt with delay, lunges, half-lunges with delay, forward tilt in a wide rack, squat in a wide rack).
3. Walking:
- Static and with the movement (right, left, forward, backward, with turns, diagonally, in a circle, square, arc);
- in conjunction with the circular, jerk, dance motion with hands;
- basic steps (basic), dance, their varieties.
4. Running movements are the same as walking, varieties and combinations of dance movements.
5. Jumps:
- on two legs (apart-together, forward-back, diagonally, with a turn to the right-left, with simultaneous change of legs back and forth, etc.) in place and with progress in different directions;
- alternately changing legs (with a swing straight and bent legs forward, backward, right, left, alternating with dance moves);
- combination of jumping, running, stepping movements, with movements in different directions;
- in combination with a variety of hand movements.

As the program became more complicated, gymnastics mats, sticks, dumbbells, fitballs, jump ropes, weighted balls, expanders were used in the classes of health aerobics.

Further consideration of the studied issue showed that the attendance of health aerobics classes by students has changed for the better. Thus, in the first semester, 23.2% of students were without absences, 37.1% of students missed physical education classes for a good reason (due to illness), 17.4% of students had less than 5 absences and 12.8% of students had more than 5 absences without a good reason. By the end of the second semester, 34.2% of students had no absences, 29.0% of students were absent for a good reason, 27.3% of students had less than 5 absences without a good reason and 9.5% of respondents had more than 5 missed classes.

The number of sick leaves presented by students during the year has decreased, which allows us to state the improvement of physical health and the manifestation of the students themselves care about it. If in the first semester missed classes 37.1% of students, by the end of the school year their number decreased to 29.0% of students.

Further, respondents were asked to assess the content, saturation and dynamics of aerobics classes. 30.6% of respondents rated classes as "excellent", 41.3% of respondents - "good". In the questionnaires, the girls indicate a gradual increase in interest in aerobics, the desire to engage in further chosen type of physical activity. 17.4% of students expressed a mixed opinion about the introduction of more complex elements of aerobics, increasing or, conversely, reducing the load in the classroom. 10.7% of respondents decided next year to change the type of physical activity in physical education, explaining that they overestimated their capabilities initially.

Also, respondents indicate that aerobics has a positive effect on the physical and psychological state. They feel a surge of vivacity and emotional energy for the whole day, improve health, sleep duration, and note the growth of discipline and self-confidence. In the questionnaires, respondents share their impressions: "began to monitor the regime of proper nutrition, more to make Hiking and evening walks"; "there was a desire to engage in free time in addition"; "we get satisfaction from the manifested elasticity and slimness of the body"; "my movements became more confident and beautiful"; "I am happy with myself and my body"; "I stopped being late everywhere and get enough sleep, because after aerobics light fatigue accumulates"; "aerobics classes contribute to relaxation and liberation from negative thoughts and problems", etc.

To the question: "Why did you choose this type of physical activity?" respondents indicated a number of individual target aspirations as follows. Thus, 74.2% of respondents with the help of aerobic exercises wish to acquire a slim fit figure, 64.4% of respondents – to improve muscle tone, acquire grace and improve plastic movements, 63.2% of respondents – to improve physical fitness, develop physical qualities (flexibility, strength), 30.6% of respondents would like to improve self-esteem and gain self-confidence.

Emotionally diverse and regular classes of health aerobics contribute to the desire to use a set of ready-made, studied exercises on their own outside of school time. As a result of the survey, we found that at the beginning of the school year, 1.7% of girls regularly engaged in physical exercises at home, 13.3% of girls attended various sports clubs, including aerobics classes. 85.0 per cent of girls were not interested in physical education in their free time. At the end of the school year, the situation changed. The number of self-employed people increased significantly to 17.4% of the respondents, 36% of the respondents began to attend the aerobics section, the remaining 47.6% of the respondents indicated a sufficient aerobic load during the training sessions.

Assessing the prospect of further independent physical exercises, it can be noted that the need of girls to engage in health aerobics has a fairly high level of motivation and tends to constant growth.

Physical activity of students is one of the important indicators of compliance with a healthy lifestyle. We found that under the influence of regular classes of health aerobics increased the overall level of physical activity of students during the school year. According to the questionnaire, at the beginning of the school year, the number of students performing morning exercises, there were 17.4% of respondents, and by may their number had increased to 23.2%. In September 19.2% of respondents preferred active rest, by the end of the year their number increased to 34.2% of respondents. Housework in the early years regularly performed 65.0% of respondents in may and 75.4% of the respondents. Covering the distance from home to the University and back, the duration of walking during the day increased from 23.8% of respondents to 63.8% of respondents.

Subjective assessment of students’ physical fitness at the end of the school year is almost the same as the objective
data of control tests conducted by teachers in September and May. For testing students were selected the following types of control exercises corresponding to the indicators of development of physical qualities in aerobics classes – speed-strength, strength, flexibility, endurance:
- the inclination of a trunk forward in a standing position;
- long jump from a place;
- flexion-extension of the arms in the stop lying;
- raising-lowering the body lying on the back;
- cross 2000 m.

Comparing the average group result of physical fitness of students at the beginning and at the end of the school year, we can state a significant increase in indicators in the long jump by 3.8%, in the exercise for the development of abdominal muscles – by 50.5%, in push-UPS from the bench – by 49.9%, flexibility – by 25.5% (table 1).

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**TABLE I. DYNAMICS OF AVERAGE GROUP INDICES OF PHYSICAL PREPAREDNESS OF STUDENTS (N=57), X±SD**

<table>
<thead>
<tr>
<th>Test</th>
<th>September</th>
<th>May</th>
<th>( p )</th>
<th>increase</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>the long jump (cm)</td>
<td>164.0±16.8</td>
<td>170.3±15.3</td>
<td>&lt;0.05</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Raising-lowering of the body lying on the back (times)</td>
<td>39.7±10.9</td>
<td>59.8±5.3</td>
<td>&lt;0.05</td>
<td>50.5</td>
<td></td>
</tr>
<tr>
<td>Flexion-extension of the arms in the stop lying (times)</td>
<td>11.9±4.9</td>
<td>17.9±3.2</td>
<td>&lt;0.05</td>
<td>49.9</td>
<td></td>
</tr>
<tr>
<td>Body tilt forward in standing position (cm)</td>
<td>13.2±7.7</td>
<td>16.6±7.9</td>
<td>&lt;0.05</td>
<td>25.5</td>
<td></td>
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</table>

The average group result in cross-country running at a distance of 2000 m in September was 11 min 23 seconds, in May it improved to 10 min 57 seconds, which indicates the fruitful work of girls and the effectiveness of cardio during the long period of training.

**IV. DISCUSSION**

Thus, taking into account the subjective assessment of the respondents, the study showed that health aerobics classes have a positive impact on the physical and psychological health of students. Increase the body's resistance to various diseases, contribute to the removal of psychological stress in stressful situations, cause a state of emotional recovery and comfort, as well as educate hard work, will, patience, discipline, teach independence, increase self-esteem, contribute to the formation of a valuable attitude to health.

In the course of employment by aerobics strengthen the musculoskeletal system, increases joint mobility, improves muscle tone, formed the relief of muscle, burns excess body fat. The body has a nice regular shape that gives girls a tremendous satisfaction. All these indicators are the basis of good health, high performance, excellent mood, which together with the absence of diseases and ailments create a feeling of absolute health and happiness [3].

Systematic classes of health aerobics give confidence in the movements, increase physical activity, the desire to observe the regime of the day, proper nutrition, sleep and rest, contribute to the growth of physical fitness of students.

The results of the study allow us to emphasize the effectiveness of physical training in the conditions of free choice of the sport, recreational activities that meet their interests, needs and contribute to the implementation of their vital goals.

In the future, we plan to develop the theme of methodical and optional classes in health aerobics to improve health, physical activity, physical fitness and psychological comfort in aerobic classes in their spare time.

**REFERENCES**

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