EFFICIENCY OF APPLICATION OF MEANS OF SPORTS PREPARATION OF COMBAT SPORTSMEN IN PHYSICAL TRAINING OF STUDENTS OF TECHNICAL HIGH SCHOOL

Litvinenko A.M.
Kharkov National University of Radio Electro

Annotation. The problem of efficiency of application of different volumes of trainings facilities of sporting single combats (on the example of kickboxing) is considered in physical education of students. The complexity of influence of educational and extra-curricular activities on the formation of skills of kickboxing. Distribution of students is educed on the tactical types of conduct of competition fight: 36 % is a playing manner, 44 % is a rate manner, 8 % is a manner of slog, 12 % is an universal manner. Offered to recommendation on the correction of volume of loading for the increase of didactic potential of employments on technical preparedness of students is statistically confirmed applying the greater amount of physical exercises, sent to technical level of training. The higher level of technical preparedness of students is statistically confirmed applying the greater amount of physical exercises, sent to physical education of students. In an experiment took part 50 students of first-year of teaching in age 17-18 years. Tests were used: undercutting on a cross-bar, broad jumps from a place, at shuttle run of 4x9 m. Positive intercommunication of increase of volume of the training loading is shown by effectiveness of pedagogical process. It is set that increase of number of employments by students in kickboxing to three one time per a week allows for certain to improve the indexes of physical preparedness on the chosen tests. The higher level of technical preparedness of students is statistically confirmed applying the greater amount of physical exercises, sent to forming of skills of kickboxing. Distribution of students is educed on the tactical types of conduct of competition fight: 36 % is a playing manner, 44 % is a rate manner, 8 % is a manner of slog, 12 % is an universal manner. Offered to recommendation on the correction of volume of loading for the increase of didactic potential of employments on physical education.

Keywords: single combats, skills, readiness, efficiency, loading.

Introduction.

Good health, high physical level and positive psychological state determine, to a large extent, efficiency of students’ study at higher educational institution [2, 5, 10]. In conditions of progressing globalization and economic, communicative and world-view changes connected with it, one of the most important task of physical culture is formation of future specialists’ healthy life style. Analysis of empiric material shows that the students, who actively use arsenal of physical culture means, are ill more seldom, are able to act efficiently in conditions of emotional stresses, have high creative potential. It coincides with theoretical statements of contemporary science about physical education of different groups of population and directs the researchers and practical specialists of physical culture profile to find the ways of pedagogical process improvement for raising training efficiency [1, 4, 5, 7, 11, 12, 13, 14]. One of such means is application of popular kinds of sports elements in academic classes in physical training [2, 5]. Application of competitiveness factor on a certain stage adds positive emotional tint to training, helps to realize latent physical and psychological capabilities of students. Oriental martial arts, which are so interesting for young people, their significant developmental and therapeutic potential permit to widely apply them in physical training of students [5, 6, 8]. By the data of N.O. Zemskaya (2012), 20.2% of students prefer martial arts as a mean of physical training.

Achievement of physical, intellectual and spiritual balance was one of educational tasks of numerous oriental martial arts schools [6, 9]. After starting martial training in one of secular or monastic martial arts school or under the guidance of individual instructor, disciple passed long way of complex training, the process of which included certain sequence of practical skills and wrestling techniques mastering, strengthening of physical and psychological capabilities [6].

Following dominating, integrating trend, modern sports martial arts absorb the best technical elements and methods of close to them, by technical and tactic arsenal, kinds of sports [6, 9]. In methodology of sportsmen training they use time tested and improved in compliance with up to date demands psycho technical exercises and the means of organism’s resources mobilizing and its restoration from arsenal of western and oriental medicine. One of such martial arts kinds is kickboxing, which, on the base of constructive synthesis, absorbed English boxing elements, karate and Thai boxing. Substantial technical and tactic arsenal, availability of hard and mild divisions permit to widely apply it for rising of physical preparedness level, health improvement and perfection of students’ cognitive abilities. Recent years the quantity of scientific papers, studying different aspects of different martial arts training methodologies has being increased. In particular, these works are devoted to kickboxing, which is close to us by its bio mechanic structure. So, the works by V.S. Ashanin, A.N. Litvinenko (2007-2012), M.V. Baranov (2009, 2010), S.S. Pyarisotskayu (2009) deal with the problems of technical–tactic training individualization of wrestlers of different age, social groups and qualification level. V.O. Gavrilyuk, F.G. Opanasyuk studied the possibility of martial arts elements application at physical culture classes as a mean of student personalities’ self improvement. O.O. Gorpinich (2012) started positive affect of martial arts training on physical and psychological health of cadets.

With this, review of special literature shows that training load optimization, efficiency control of martial arts training in the system of physical education of technical higher educational institutions have not been sufficiently studied yet, that suppresses their more wide application as and efficient mean of student’s physical abilities improvement and as an element of sound life style organization.

The present work has been fulfilled as per Combined plan of scientific and research works in the sphere of physical education and sports of Ministry of family, youth and sports of Ukraine, subject “Theoretical and methodological foundation of professional-applied physical training of higher educational institutions’ students.”

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(3.1.8.3 n) and as per program of scientific researches in physical education and sports of Kharkov national university of radio electronics.

Purpose, tasks of the work, material and methods.

The purpose of the research: determination of efficiency of different martial arts training means scopes (on example of kickboxing) in physical education of technical higher educational institution students.

Three tasks of the researches:
1. To determine the changes of students’ physical preparedness indicators, with application of different kickboxing training means scopes during academic year.
2. To find out the changes of students’ technical level effectiveness depending on the scope of the applied means.
3. To determine the students’ tactic preparedness effectiveness, depending on the scope of the applied means.

The research was conducted from September 2011 to May 2012 on sports base of Kharkov national university of radio electronics. In September 2011 we selected 25 first year students, who wished to be trained in groups, specialized in kickboxing elements (group No.1). This group was trained 1 time a week, as per the curriculum of higher educational institution. In parallel, from first year students we formed group of initial sports training (n = 25) and this group was trained three times a week (group No.2). Both examined groups consisted of 17-18 years old boys. After formation of the groups, the students - participants passed preliminary testing for their physical preparedness level. In May 2012, there was the final testing. Then during academic year group No.1 students were trained by adapted for them kickboxing program. They trained the foundations of this kind of sports technique and tactic sequentially, from initial level. Besides, these students trained general and special physical exercises. The classes of group No.2 were built as per conventional kickboxing methodology, which stipulates stage-by-stage mastering of all arsenal attacking and defensive actions, and raising their physical preparedness up to the level sufficient for competition fights with adversaries of the same class.

In December 2011 and in May 2012, the technical preparedness level of both groups was determined by ten-point system of expert evaluation. Expert group included consisted of four highly qualified sportsmen: Honoured Master of sports of Ukraine, master of sports of Ukraine of international level, 2 kickboxing masters of sports and one Honoured coach of Ukraine. In May 2012, after second expert evaluation of technical preparedness, a kickboxing competition by adapted rules was conducted. Control fights were conducted as training competitions in kickboxing division “mild contact”. Every student carried out 2 fights (fight formula: 2 rounds, 1 minute each round). Considering specificity of this kind of sports, the students’ participation in the competition was voluntary. 11 students of group No.1 and 23 students of group No.2 took part in the competition.

Results of the research.
The conducted research showed positive interconnection between the increasing of training load in week training cycle of technical higher educational institution students and the effectiveness of pedagogical process.

In table 1 the data of initial and final determination of control and experimental group students’ physical preparedness are presented. The data were obtained by testing results (chin-ups, standing long jumps, shuttle run 4x9m).

<table>
<thead>
<tr>
<th>Groups</th>
<th>Chin-ups</th>
<th>Standing long jumps (cm)</th>
<th>Shuttle run (sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>I (n = 25)</td>
<td>9.4</td>
<td>10.8</td>
<td>205.3</td>
</tr>
<tr>
<td>II (n = 25)</td>
<td>9.9</td>
<td>16.2</td>
<td>208.3</td>
</tr>
</tbody>
</table>

Notes:
I – group No.1. Trainings - 1 time a week;
II – group No.2. Trainings – 3 times a week;
1. results of initial testing of students’ physical preparedness;
2. results of final testing of students’ physical preparedness;
The obtained data permit to affirm that with trainings 3 times a week, adaptation processes in students’ organisms are much higher than with trainings 1 time a week. So, average number of experimental group students’ chin-ups became by 33.8% higher than of control group students (t=9.3, p<0.05); the length of standing long jumps of
group No.2 students is by 7.7% higher than of group No.1 students \((t=6.8, \ p<0.05)\); results of “shuttle run” test of experimental group is by 4.2% better, than of control group \((t=13.3, \ p<0.05)\).

The fact, that every following training of experimental group of students was carried out as per “overcompensation” principle of organization, permitted to significantly increase physical load and it leaded to increasing of students’ motion capabilities. Trainings 1 time a week are not sufficient for receiving the required adaptation shift and, correspondingly, the training effectiveness.

Testing results of control and experimental group students’ technical preparedness, by ten - points system expert evaluation, are given in Table 2.

### Table 2

**Students’ technical preparedness indicators after 4 months (beginning of experiment “1” and the end of experiment “2”)**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Technical preparedness (points)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>I ((n = 25))</td>
<td>1.9</td>
</tr>
<tr>
<td>II ((n = 25))</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Notes:
I – group No.1. Trainings - 1 time a week;
II – group No.2. Trainings – 3 times a week;
1 – results of students’ technical preparedness expert evaluation after first semester of academic year;
2 – results of students’ final technical preparedness expert evaluation;
Analysis of technical preparedness results shows that training 3 times a week provide students with sufficient quantity of exercises directed to formation of steady motion skills. Their technical preparedness indicators exceed by 46.7% the indicators of group No.1 students, which was trained 1 time a week.

In organized at the end of experiment control competitions 44% of group No.1 students took part. This attests an expressed training effect and rather high self-evaluation of group No.1 students. From group No.2 92% of students participated. Expert analysis and evaluation of competition fights’ technical and tactic picture showed that No.2 students fulfilled kickboxing techniques more stably and their tactic actions were more purposeful. By the criterion of prevailing tactics it became possible to relate students to definite tactic type: “players”, “speed fighters”, “knock outers” and “universals” [3]. Combat actions of group No.1 students had, in general, confused, spontaneous character and experts related only two of them to a certain tactic type (“knock outers”).

In table 3 results of percentage distribution of second group students by tactic types of fighting in comparison with data available in kickboxing literature.

### Table 3

**Distribution by fighting types of experimental group students**

<table>
<thead>
<tr>
<th>Technical and tactic types</th>
<th>1 ((%))\</th>
<th>2 ((%))</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Players”</td>
<td>37-38.5</td>
<td>36</td>
</tr>
<tr>
<td>“Speed fighters”</td>
<td>41-42.7</td>
<td>44</td>
</tr>
<tr>
<td>“Knock outers”</td>
<td>14-14,5</td>
<td>8</td>
</tr>
<tr>
<td>“Universals”</td>
<td>4-4.6</td>
<td>12</td>
</tr>
</tbody>
</table>

Notes:
1 – distribution by tactic types in kickboxing;
2 – distribution by tactic types of group No.2 students;

In competition fights, students of group No.2 could manifest sufficient level of tactic preparedness for identification of their style. From table data we can see, that their distribution by tactic types to a large extent corresponds to sportsmen’s distribution in kickboxing.

Summary.

The obtained results made it possible to formulate the following conclusions:

1. Absence of traumatism, stability of students’, specialized in kickboxing kind of physical education, quantity point at high efficiency of physical training organization at higher educational institution, where training means of this kind of sports, which is so popular among students, are widely applied.

2. Comparing of results of two examined groups of students, which were obtained in final testing, showed significant physical and technical preparedness increasing of students, who train 3 times a week against the students, who trained 1 time a week.

3. Significant improvement of physical and tactic-technique indicators of group, which is trained kickboxing 3 times a week, permit to recommend introduction of additional physical culture classes in curriculum as well as to develop mass sports in higher educational institutions as one of the most effective means of students’ education.

The prospects of further researches are connected with study of motivation to physical training and rising of mass sports efficiency among students.

References:
Litvinenko A.N.: k-jfk@rambler.ru; Kharkov National University of Radio Electronics; Lenina boulevard 14, Kharkov, 61166, Ukraine.

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The electronic version of this article is the complete one and can be found online at: http://www.sportpedagogy.org.ua/html/archive-e.html

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