METHODOLOGY OF FORMATION OF THE MOTIVE ABILITIES OF SENIOR SCHOOL CHILDREN DURING THE TRAINING PROCESS OF SINGLE COMBAT IN CHILD-YOUTH SPORTING SCHOOLS

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Abstract
To this day the unity of opinions of specialists on planning of the educational-training process on the different stages of preparation of judokas’ is absent. It is related with the amount of reiterations of technique on the training lesson, in the training week, month, quarter, half-year, school year. Everything the above enumerated creates the problem of qualitative optimization of educational-training process for initial studies of judo program of senior schoolchildren in child-youth sporting schools (CYSS).
In obedience to methodology offered by the authors of the article, studying a technique is conducted with the use of quadrangular matrix of educating. The rate of motion is located on the vertical line of matrix. For horizontals - level of resistance of partner.
A partner does not offer resistance, a partner offers ½ resistance (by hands or feet), a partner renders full resistance (by hands and feet). The maximal amount of throws is executed on a middle rate (3). A common amount of reiterations - 21 in one matrix. Common amount of reiterations of throws for to 10 matrix - 210.
The effect from using of matrix of educating 500: 210=2,38.

Existent methodology of reiterations counts 500 throws. It is the methodology to throw for refuse.
The authorial methodology of forming of motive abilities allows to master a technique from single combats on the initial stage of training of senior schoolchildren in CYSS with the minimum expense of time. The use of
authorial methodology during 3 months allows to use technique in the educational-training duels. The generally accepted norm is 6 months after the beginning of training.

**Keywords:** Knowledge, ability, skills, forming of motive abilities, perception, training loading

The process of formation of the motive abilities and skills in child-youth sporting schools of single combats (CYSS) is very essential (V. A. Demin, R. A. Piloian, A.A. Novikov, V. M. Igumeniv, G.M. Arziutov and other). The general didactics approach to the methodology of this study was marked by I.I. Alihanov and G.M. Arziutov; therefore, this approach requires clearness in rising of tasks, the development of facilities and methods for the decision of these tasks, determination of the consistency of this process and the peculiarity of the realization of the principles of the studies. The target of studies can be attained by the decision of the tasks of studies, each of which helps to capture a concrete motive action that, in turn, assumes the decision of private tasks of studies.

However, it was possible for the last tasks to be divided into three groups, namely: the task for the sequence of the presentment of the material, the task for the sequence of the mastering of the material and the task for the realization of didactics principles (M.M. Bogen).

Methodological basis of research is the theory of studies of the motive actions that presents a unity of theoretical positions to the complexity of sciences (pedagogical, physiological, psychological and other):
- it is a research on the pedagogical process of labor (E.A. Klimov, A.N. Leontiev, L.M. Kushiv), education (V.V. Davidov, E.P. Ilin), and sporting activity (V. A. Demin, R. A. Piloian, A.A. Novikov, V. M. Igumeniv, G.M. Arziutov and other);
- it is a scientific theory of studies, that gives an opportunity to examine and to analyze an educational process in connection with the development of pedagogical science and on the ground of the functioning of the system of the educational process (G. S. Tumanian, M. M. Bogen, A.A. Novikov, V. V. Nelubin and other);
- it is a general theory and methodology of physical education (L.P. Matveev, V. P. Filin, N.I. Ponomariov, V. N. Platonov and others).

Hence, during the process of the study of the theory, the practice of the three stages are usually distinguished (initial, deep learning, fixing and further perfection) are differentiated with the help of the tasks and methodology of studies.
The task of the study is to give knowledge, to produce abilities and to form skills. Its primary purpose consists of the making of the correct idea of the sportsman about the process of single combat.

The study of the sporting of single combats (the idea will go farther with a sporting fight) is the pedagogical process that is sent to form knowledge, abilities and skills in those who participates in sports in CYSS through a continuous realization of tasks for all-round physical development. The content of educational material and educational process must be directed to the decision of certain sporting-pedagogical task (A.P. Kuptsov).

A motive action is the method of decision of some motive task. If the task is difficult and requires the solution of more shallow motive tasks, the method of its decision (motive action that is studied) usually has a difficult structure and includes the corresponding number of operations, each of which must become the object of study (M.M. Bogen).

The motive knowledge is the first level of opportunity to master an action (such level helps to master spatial knowledge about the realization of motion), the second one is the ability(such level of mastering of a motive action at that the management of the motions comes true at the active role of thinking, and those who studies seize the sentinel structure of motion), the third is the motive skill (it is a measure of mastering an action such that there is a management of the motions which is automated, and at that moment, that person seizing the speed-power parameter of the motion). The basic task of the third stage is to teach those that participate freely in CYSS to acquire skills in any circumstances of single combat. Only in this case, the skill will get its practical value. Thus, the motive abilities of higher order are formed on the basis of the earlier mastered knowledge, abilities and skills (O.O. Novikov, L.P. Matveev, O.O. Karelin, G.M. Arzhiutov and others).

However, to present time in practice of training and the preparation of sportsmen in CYSS, the unity of opinions of specialists on planning of the educational-training process on the different stages of preparation of sportsmen was not present.

Furthermore, it is related in turn to the amount of reiterations of technique on the training lesson weekly, monthly, quarterly, half-yearly and at the end of the school year.

Everything above which has been enumerated creates a problem of qualitative optimization of educational-training process for initial studies to the motive actions of senior pupils in CYSS.

Despite obvious actuality of the represented problem, specialists to this day unfortunately, did not find the optimal methods of its decision.

The target of this research consists of the following theory: scientific ground, development and experimental verification of authorial methodology of the forming of motive abilities and skills at the initial stage of studies to
the single combats of senior pupils, which was studied in child-youth sporting schools.

The following tasks are to be solved so as to achieve the target of this research:

1) To carry out the analysis of scientifically-methodical literature on questions on the formation of the motive abilities and skills from the process of initial studies to the single combats of senior pupils;
2) To define the criteria for the estimation of the depth of mastering of the motive ability at the studies of technique in CYSS;
3) To investigate the character of connections in the model of forming of the motive abilities of senior pupils, that study in CYSS;
4) To work out and experimentally check the efficiency of authorial methodology on the formation of motive abilities and skills of senior pupils from the stage of initial studies to the single combats.

The object of research is an educational-training process in the single combats of senior pupils CYSS.

The subject of research results from the facilities and methods of formation of the motive abilities and skills of senior pupils in CYSS on the basis of the use of authorial methodology of studies.

The research methods is the analysis of data of the special scientifically - methodical literature, questioning, pedagogical methods and methods of mathematical statistics. The researches were conducted with sportmen of 15-years-old on training in judo on the base of child-youth sporting school "Spartac" and on the base of sporting club from judo "Ukrainian Kodokan" of Kyiv. In the experimental research, 40 senior pupils, 20 boys who were occupied in the control group and 20 in the experimental groups took part in it.

The control group through the whole time of the realization of the experiment was occupied on the CYSS program in judo. This group captured the program of white belt, which includes the study of the 6 technical actions in judo during the school year by an ordinary method: 150-200 reiterations of actions for a 1 training lesson. The experimental group mastered the program of white belt after the authorial methodology - with the use of rectangular matrices of studies to the technique of white belt.

For checking of the homogeneity of division of senior pupils into control and experimental groups before the beginning of experiment, all the senior pupils passed 5 tests (10 throws the "O soto otsosh", shuttle at run in 4x9m., jumps in length from the place, 10 jumping out on a bench in high 0,7m., undercutting on the beam).

It appeared that in the result of all the above mentioned tests after the statistical consideration of the results of establishing the experiment, the statistically reliable differences between control and experimental groups

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were not identified (P≥ 0,05). It can be seen from the table that the difference in the statistically certain meaningful data between the control groups and experimental groups were not detected \( t < t_{st} \) (\( t_{st} = 2, p = 0,95; t_{st} = 2,7, p = 0,99; t_{st} = 3,6, p = 0,099; (v = n_1 + n_2 - 2 = 38) (P≥ 0,05) \).

The duration of basic forming pedagogical experiment is 6 months. 96 training lessons had been conducted for 6 months (288 hours in each). Also, the control group conducted a training process on the program of the white belt in judo in the experiment. The training in the experimental group on the capture of the program of the white belt was conducted after the authorial methodology of the study through the use of rectangular matrices of studies (G.N. Arziutov, O.O. Panasiuk, 2011). Therefore, the trainings with the use of rectangular matrices were conducted on the principle of triad "knowledge-ability-skill" that set the dosage of the rate of motion and resistance to the opponent (Pic. 1).

![Exercise](image)

**Exercise**

**Resistance**

<table>
<thead>
<tr>
<th>Rate of motion</th>
<th>Without resistance</th>
<th>With 1/2 resistance</th>
<th>Full resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (L)</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Middle (M)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>High (H)</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>( \Sigma = 21 )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pic. 1. The mastering of the "crown" technique in single combats after the authorial methodology

The working off of the technique was organized on the authorial methodology. However, the essence of this is in the sequence of the mastering of: the spatial parameter of motion (a level of knowledge), the tempo - rhythmic parameter of motion (a level of ability), and the powerful parameter of motion (a level of skill). The working off begins with a low rate and without resistance. After the execution of the 2 approaches to the continuous implementation of throw, it continues the implementation of vertical lines 3 (middle rate) and 2(high rate). Then, the same technique is executed by your partner. The implementation of technique at the level of 1/2 resistances (resistance - by feet or by hands) goes after it, then 2, 3, 2
reiterations accordingly. Thus, you have an active rest and simultaneously, your partner executes this series.

The third series (with the full resistance of the partner by hands and feet) are executed like - 2, 3, 2 reiterations on the different rates of the implementation of motion. This block (without movements of Uke and Tory) in statics (in place) is executed several times until sure and clear realization of action appears. In other words, this moment comes between the levels of "knowledge" and "ability" as it takes place after the 500 reiterations. The question is about the average coordinating abilities (CA) of the person.

After this, Uke and Tory proceed to mastering of this block in motion on an analogical pattern. For the realization for the testing of quality of the mastering of the white belt Program on completion of forming experiment, 10 experts were attracted from judo. The three of them were the deserved trainers of higher category, 4 were trainers of higher category and 3 were trainers of a 1 category. Therefore, all trainers have an experience of more than 10 years trainer's work. The technique of white belt in judo, that was used in an experiment, includes: 1- the side hacking under the proposed leg; 2 – the grasp from within and under the shin; 3 – the grasp from within the supporting leg; 4 – the hook from within and under the heel; 5- is a hook from the middle; 6- is the back hacking under the heel. After the state program, the time taken by the mastering of the white belt technique is one training year. The implementation of the technique was estimated on the system of old ratings in judo, where an attempt of implementation is a 1 point; a throw for the estimation of "juko" was 5 points; a throw for an estimation of "vaza ari" was 7 points and a throw for the estimation of "ippon" was 10 points. The experts summed up the results of every throw and gave the middle result of the technique implementation of the actions. Most considerable indexes are attained at the mastering of the technique e.g. the "De ashi barai"(t=15,7; P ≤ 0,001). The results are given in the graphic representation as shown in pic.2

![Graph](image_url)
Pic.2. The results of the expert estimation of the quality of mastering of the white belt program in judo (Ukraine program) after the realization of the forming experiment with the use of rectangular matrices of the study (at authorial methodology), n=20, CG – control group, EG – experimental group.

The analysis of graphic data grounds to assert that the use of the methodology of study after authorial program gives an opportunity to reduce the term of study of the technique of judo to a minimum of 2 times.

We pulled out the conception of study of motive experience in order to construct the authorial methodology of study of the motive ability (pic.3).

<table>
<thead>
<tr>
<th>№</th>
<th>Depth of mastering of motions</th>
<th>Parameter of motion</th>
<th>Number of reiterations (number of trainings)</th>
<th>Successful implementation of motion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knowledge</td>
<td>SPM</td>
<td>to 300 reiterations</td>
<td>5%</td>
</tr>
<tr>
<td>2</td>
<td>Ability</td>
<td>SPM+TRPM</td>
<td>to 1000-1200 reiterations (25-30 trainings)</td>
<td>40%</td>
</tr>
<tr>
<td>3</td>
<td>Skill</td>
<td>SPM+TRPM+SPPM</td>
<td>to 5000-6000 reiterations(100-120 trainings)</td>
<td>95%</td>
</tr>
<tr>
<td>4</td>
<td>Crown implementation of technique</td>
<td>SPM+TRPM+SPPM+APC</td>
<td>to 120 000 reiterations (training during 10 years)</td>
<td>98%</td>
</tr>
</tbody>
</table>

Pic.3. The conception of forming of the motive experience of senior pupils in the process of activities in the single combats of CYSS, where SPM, TRPM, SPPM, APC is the spatial parameter, tempo-rhythmic, speed-power parameters of motion and anticipatory parameter of co-ordination.

As a result of the examination and formation of the motive ability at feet and hands locomotion through the prism of theory of activity, mastering of knowledge, forming of actions and concepts of P. I. Galperin and taking into account the inherited propensity to certain motions, it is possible to assume in theory, that the process of forming of motive skill would be speed-up. The processes of formation of RBA will not have obstacles which are related to the chopping off of the superfluous motive co-ordinations. Hence, it happens on the basis of already existing (though the subconscious) motive automatism. The reference part will be formed more quickly and it will better comport with the executive part of action. On the condition of the efficiency of the executive, the control-adjustment part will become unnecessary or partly expressed only on condition of efficiency of the executive part.

Thus, according to the theory of activity, the mastering of knowledge, forming of actions and concepts of P. I. Galperin, and the process of automation of motive action appears as follows: RBA and control-adjustment part of action "fold". The executive part remains as subject and
external unfolded. And, to our opinion, this process will flow more quickly than the better expressed hereditary conditioned motive automatism as shown in pic. 4.

![Diagram](image)

**Pic.4. Algorithm of forming of motive ability and its parameters**

Reference basis of action - RBA

Thus, one of the important factors of the process of automation of motions is the forming of abilities and skills, which result in the propensity of other type of activity.

In our case, it is very important, to study the difficult co-ordinated types of single combats (for example, judo), that an overhead humeral belt carried out on the role of extinguishing (buffer) of the speed-power action of opponent, while the feet is executing various counter-attacking actions (hacking, hooks and such like).

The authorial methodology of forming of motive abilities allows the mastering of a technique from a single combats from the initial stage of training of senior pupils in CYSS with the minimum expense of time. The use of authorial methodology during 3 months makes it possible to use it in the educational-training duels. Therefore, the generally accepted norm is 6 months after the beginning of the training process.

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