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THE IMPROVEMENT OF GENERAL AND SPECIAL PHYSICAL PREPAREDNESS DEVELOPMENT AMONG 7–9 YEAR-OLD JUDOKAS

Theory and methodology of physical education, sport theory are developing at a significant pace these days. Data received from academic research fill in gaps in understanding of different phenomena on practical and theoretical levels. This academic knowledge can influence the understanding of principals of judo that is called a unique union of martial art and science. This kind of sport is famous among Japanese martial arts techniques and is genetically related to Jujutsu. Judo can be divided into standing and lying types of combat. This type of sport helps to gain self-confidence. It is also a kind of physical practice that encourages motivation to physical and health activity. It accommodates philosophy, lifestyle and sport.

Physical training is a pedagogical process focused on physical skills development (strength, speed, endurance, spine mobility, and agility), functional possibilities of organs and systems of a sportsmen's body. They create unique positive conditions for proficiency in skills implementation.

The research paper describes the improved methodology of 7–9 year-old judokas training. The methodology determines and theoretically justifies correspondence of physical exercises and proportionality of muscle loading with functional peculiarities of child's body. The methodology is based on multifaceted special preparation that helps to broaden motion behavior experience of young judokas and create appropriate base for their general technical preparedness. The choice of exercises as well as conditions of their performance and their repeats number depend on the choice of educational institution. The improved methodology implementation success is contingent on careful organization of training during combat adaptation process. It is important to follow methodological cadence in teaching and mastering combat techniques.

In judo, general and special physical preparedness development level influences the accuracy of technical moves performance. It is basic for the formation of high standard mastery. In accordance to the research, there is a positive influence of the improved methodology on the development of general and special physical preparedness level among 7–9 year-old judokas.

Key words: *judo, methodology, junior schoolchildren, physical qualities, motor abilities and skills.*

Judo is a universal method of physical development and personal enhancement. It is a unique fusion of ancient martial arts, modern sports techniques and philosophy of continuous improvement. It is also called an art, which gives freedom of self-expression and shows the beauty of movement. Judo principles can be applied to physical development as well as other aspects of life [3; 4].

Traditional martial arts are unique in many ways, and primarily, that they are a kind of elaborate system of movements, which allows controlling body as a harmonious unified system that, can develop physical qualities and functional preparedness of young athletes. In terms of competitive activities, judo is understood as the best way to perform multivariate individual technical and tactical actions in the form of hip-rolls, hacks, painful holds and submission locks. Performance of these techniques requires demonstration of strength, endurance, speed and instant coordination skills [1; 5].

Judo is a type of physical education is always understood as a set of techniques that help to isolate individual movements and compare them, consciously manage the movements and adapt them to a variety of obstacles, as well as to overcome them skillfully and persistently. In other words, judo is the art of being accustomed with the least effort and perform physical work in the shortest period consciously [6; 7].

Judo can influence a wide range of natural qualities of a human body that relate to physical qualities of junior schoolchildren. With the help of physical exercises and other means of physical education, a person can change functional state of the organism that can lead to progressive adaptive improvements in it [8; 9]. Under certain conditions, judo can influence physical qualities of a human and can lead to significant advances in the level and direction of development judokas. These changes are reflected in the progress of certain motor abilities (strength, speed, etc.), overall level of performance raise, health improvement and positive changes in body-build [1; 4].

The publications of G. Arzyutov are devoted to the experience of perennial martial arts training [1]. L. Afonina, E. Belanova, A. Sokolova, N. Urzhenko focus their attention on implementation of action-oriented games in the training process of judokas [2]. V. Boyko and G. Danko investigate physical training process of judokas [3]. V. Shestakov and S. Eregina analyze theory and methods of children and juvenile judo development [7]. J. Fisher, L. Reilly, C. Kelly, A. Montgomery, J. Williamson describe influence of general forms, methods and principles physical education on motor skill performance and physical activity in preschool children [8], etc. The scientific and practical importance of judo show that the ways of modernization of existed methods of development of general and special physical preparedness are of great importance and should correlate with the advances in theoretical and practical spheres.

Methodological aspects of learning and training process development in judo are not reflected in specialized literature in Ukraine. Thus, the research is relevant and urgent.

The objective **–** to improve the methodology of general and special physical preparedness among 7–9 year-old judokas.

Research base and methods. The study involves 22 boys who are from 7 to 9 years old (11 boys – control group, 11 boys – experimental group). Ac-

cording to their health condition they attended basic health care group and they who for health reasons and were at the initial training stage.

The development of physical background is one of the key elements of sport training. It is usually focused on the development on motor skills i. e. strength, speed, endurance, dorsal spine mobility and sense of coordination [3]. The above-mentioned stage of training is the base for physical education and sport activities of a young judoka [1; 7]. At this stage, the coach focuses his teaching skills on diverse physical preparation and mastering the basics of judo techniques.

The improved methodology is intended to ensuring comprehensive sportsmen's preparedness, physical development and health strengthening of athletes; increasing of physical preparedness level, improving of technical and tactical skills; locomotor system strengthening; optimal presentation of control and qualifying standards; creation of emotional well-being atmosphere for young judokas as well as familiarization of infant athletes with human values.

The methodology provides strict succession and continuity of the training process of 7–9 year old male judokas. The methodology is based on continuity in solving health strengthening problems and harmonious development, moral and volitional qualities cultivation among athletes. It evolves sustainable interest in getting new knowledge, diligence in judo techniques mastering, physical qualities formation, and creating prerequisites for achieving high results in sport.

The improved methodology content covers such aspects in training as theoretical knowledge, general physical training, special physical training, technical and tactical training, and action-oriented games. Furthermore, the content is upgraded in accordance to the contemporary lifestyle and is designed to maximize individual approach to every child-athlete. The methodology has positive influence on the young judokas according to the retesting and competition performance.

In the current conditions of learning and training process development, young sportsmen need constant control [5; 10]. It is attributed to the intensity of modern life and environment. Thus, the desired pedagogic effect can be accomplished with the help of enlightened management of the educational and training process. It should be aimed to physical qualities cultivation as well as formation of training motivation [2; 6; 9]. The issues of ideal methods and techniques identification for young judokas training are getting popularity these days.

Tab. shows the testing results indexes of physical qualities development of 7–9 year old male judokas before and after the experiment.

Table

The statistical evidence of motor qualities development among 7–9 year old male judokas before and after the experiment

Tests	statistical characteistics	Control group		Experimental group	
		n – 11		n – 11	
		before	after	before	after
		Experiment			
Handstand push-ups (number of times)	$\bar{x}$	16	17	16	20
	σ	0,70	0,79	0,68	0,71
	V	6,05	5,15	5,59	5,93
	m	0,10	0,16	0,10	0,11
Standing long jump, (centimeter)	$\bar{x}$	137	141	136	150
	σ	5,88	4,81	5,17	4,17
	V	9,49	7,40	9,66	7,86
	m	2,25	2,25	2,40	2,40
Trunk curls on incline bench (number of times)		22	26	23	31
	σ	0,70	0,79	0,69	0,75
	V	4,14	5,05	5,70	6,76
	m	0,15	0,16	0,16	0,19
Chin-ups on a horizontal bar (number of times)		2	3	2	5
	σ	0,51	0,92	0,37	0,75
	V	8,09	7,15	8,21	6,04
	m	0,21	0,84	0,24	0,66
Rolling in standing on the head position (number of times in seconds)		15	17	15	21
	σ	4,07	4,17	3,94	4,56
	V	6,74	7,76	6,12	5,89
	m	1,31	2,13	1,44	1,41
Robe climbing (meters)		3	4	3	5
	σ	0,11	0,55	0,17	0,41
	V	9,51	4,16	9,29	3,49
	m	0,42	0,34	0,43	0,48
Pull of rubber tourniquet (number of times in 30 seconds)		21	24	22	27
	σ	3,22	4,11	4,01	4,02
	V	6,71	7,18	6,20	6,06
	m	0,80	3,16	0,72	3,77
Bent knee squat with a partner, standing back to back (number of times in 30 seconds)		16	18	15	20
	σ	2,84	1,13	2,55	1,29
	V	5,25	7,74	5,65	7,05
	m	0,54	1,52	0,69	1,81
“30 meters running”, (seconds)		6,10	5,90	6,10	5,40
	σ	0,49	0,79	0,63	0,73
	V	8,04	8,97	9,67	8,67
	m	0,07	0,17	0,09	0,19
Trunk blending forward/ stretching forward (centimeters)		5,3	6,9	5,4	10,1
	σ	6,30	6,10	6,49	6,49
	V	8,25	5,24	8,12	5,45
	m	0,89	1,11	0,91	1,27

The data received during the tests on physical qualities evaluation among the 7–9 year old boys who go in for judo that took place before and after the experiment show that the groups are homogeneous according to of all the tests, for example: test on "Handstand push-ups" (before the experiment V up to 6,05% – C. G., V up to 5,59% – E. G.; after the experiment V up to 5,15% – C. G., V up to 5,93% – E. G.); test on "Standing long jump" (before the experiment V до 9,49% – C. G., V до 9,66% – E. G.; after the experiment V up to 7,40% – C. G., V up to 7,86% – E. G.); test on "Trunk curls on incline bench" (before the experiment V up to 4,14% – C. G., V up to 5,70% – E. G.; after the experiment V up to 5,05% – C. G., V up to 6,76% – E. G.); test on "Chin-ups on a horizontal bar" (before the experiment V up to 8,09% – C. G., V up to 8,21% – E. G.; after the experiment V up to 7,15% – C. G., V up to 6,04% – E. G.); test on "Rolling in standing on the head position" (before the experiment V up to 6,74% – C. G., V up to 6,12% – E. G.; after the experiment V up to 7,76% – C. G., V up to 5,89% – E. G.); test on "Robe climbing" (before the experiment V up to 9,51% – C. G., V up to 9,29% – E. G.; after the experiment V up to 4,16% – C. G., V up to 3,49% – E. G.); test on "Pull of rubber tourniquet" (before the experiment V up to 6,71% – C. G., V up to 6,20% – E. G.; after the experiment V up to 7,18% – C. G., V up to 6,06% – E. G.); test on "Bent knee squat with a partner, standing back to back" (before the experiment V up to 5,25% – C. G., V up to 5,65% – E. G.; after the experiment V up to 7,74% – C. G., V up to 7,05% – E. G.); test on "30 meters running" (before the experiment V up to 8,04% – C. G., V up to 9,67% – E. G.; after the experiment V up to 8,97% – C. G., V up to 8,67% – E. G.); and test on "Trunk blending forward/ stretching forward" (before the experiment V up to 8,25% – C. G., V up to 8,12% – E. G.; after the experiment V up to 5,24% – C. G., V up to 5,45% – E. G.).

After the pedagogical experiment with the described methodology implementation, there is the increase of physical skills of the boys in the two groups. Thus, the results indexes and direction in the groups are not similar. In the experimental group, there is advancement of all results. Although, there are some positive changes in the results, but some of the result have not shown significant changes.

According to the statistical evidence, the training process for the boys in the experimental group was sustainably organized and was focused on diversified and balanced development of all kinds of motor.

The analyses of "Handstand push-ups" test among the boys shows the following results: in the control group – 17±0,16 times; in the experimental group – 20±0,11 times ($p<0,01$). According to "Standing long jump" test among the boys in control group, the results are 141±2,25 centimeters; in the experimental group they are 150±2,40 centimeters; ($p<0,05$). The results of "Trunk curls on incline bench" test are 26±0,16 times in the control group and 31±0,19 times ($p<0,05$) in the experimental group. "Chin-ups on a horizontal bar" test results in the control group are equal to 3±0,21 times but in experi-

mental group results of the test are equal 5 ± 0,24 times. The results of "Rolling in standing on the head position" test for the experimental group are 21±1,41 number of times in seconds ($p<0,05$) and for the control group the results are 17±2,13 number of times in seconds ($p<0,05$).

In specific test like "Robe climbing", the results for the control group are 4 ± 0,342 meters and the results for the experimental group are 5±0,48 м ($p<0,01$). The results of "Pull of rubber tourniquet" test for the control group are 24±3,16 number of times in 30 seconds and for the experimental group the results are 27±3,77 number of times in 30 seconds ($p<0,05$). "Bent knee squat with a partner, standing back to back" test shows such results: 18±1,52 number of time in seconds for the control group and 20±1,81 number of time in seconds ($p<0,05$) for the experimental group. The "30 meters running" test shows such results – 5,90±0,17 seconds for the experimental group and 5,40±0,19 с ($p<0,05$) for the control group.

The boys in both groups show high results in "Trunk blending forward/ stretching forward" test: 6,90±1,11 centimeters in the control group and 10,1±1,27 centimeters in the experimental group.

The key factor for the effective development of physical qualities among the children in the control and experimental group was attention to sensitive periods and comprehensive approach during the judo trainings.

The introduction of the experimental methodology in the training process increased motivation to physical exercises and sport activities, improved the development of general physical qualities and had positive effect on the health of the children.

There is also evaluation of percentage growth in the indexes of physical qualities of the experiment participants. The evaluation is based on the data taken before and after the experiment. The positive change in "Handstand push-ups" is 5,18% in the control group and 8,12% in the experimental group. The changes in "Standing long jump" are 7,06% in the control group and 11,09% in the experimental group. The growth in in physical skills such type of exercise as "Trunk curls on incline bench" is 9,75% in the control group and 14,21%; for the experimental one. The boys improved their performance in "Chin-ups on a horizontal bar" by 5,03 per cent in the control group and by 7,71 per cent in the experimental group. The results in "Rolling in standing on the head position" changed by 6,00% in the control group and by 9,65%; in the experimental group. The coaches improved the results in "Robe climbing" by 5,88% in the control group and by 8,17% in the experimental group. The positive dynamics in "Pull of rubber tourniquet" are 6,25% in the control group and 10,06% in the experimental group. "Bent knee squat with a partner, standing back to back" exercise performance changed by 9,71% in the control group and by 16,01% in the experimental group. The boys boosted figures in "30 meters running" by 8,51% in the control group and by 13,55% in the experimental group. The performance

in “Trunk blending forward/ stretching forward” strengthened by 9,36% in the control group and by 14,38% in the experimental group.

The results of the conducted experiment show difference in the increase of physical qualities development among 7–9 year old judokas in experimental and control groups. The effect of the improved methodology positively influenced the participants of the experimental group. Thus, this methodology can be implemented in the training process.

Conclusions. The article summarizes contemporary situation in the methods and techniques of general and special physical development among primary school age judokas. The survey of above-mentioned situation encouraged the researcher to advance the existed methodologies. The methodology for development of physical qualities of boys aged 7–9 who go in for judo is upgraded taking into take into consideration the analyze of specialized literature. The modernized methodology consists of theoretical knowledge block, general physical preparation block, specialized physical preparation block, technical and tactical preparation block as well as action-oriented games block.

After the analyze of the developed methodology that is based on the results of above-mentioned indexes of experimental and control groups we can conclude that it positively influences the training process. The improved methodology has relatively positive effect on primary school age judokas and can be introduced into learning and training process for the above listed age group.

At the following stage of research, the author is planning to implement the improved methodology into training process of 7–9 year-old female judokas.

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Шуба В. В. Усовершенствование развития общей и специальной физической подготовки дзюдоистов 7–9 лет

В статье указано, что теория и методика физического воспитания, теория спорта в последние года развивается значительными темпами, пополняясь новыми данными и приобретая большое практическое значение. Дзюдо является одним из видов борьбы, который позитивно влияет на развитие боевого духа. Этот спорт – один из видов японских единоборств, который был создан на основе джиу-джитсу. Дзюдо делится на борьбу в стойках и борьбу лежа (партер). Борьба в стойке включает в себя перемещение, захваты, выход на броски и проведение самого броска. Контакт между соперниками начинается с момента захвата за кимоно. Этот вид спорта помогает приобрести уверенность в собственных силах, является одним из способов двигательной активности, а также способствует формированию мотивации к физкультурно-оздоровительной деятельности.

Отмечено, что физическая подготовка – это педагогический процесс, направленный на развитие физических качеств (силы, скорости, выносливости, гибкости, ловкости), функциональных возможностей органов и систем организма спортсмена, которые создают благоприятные условия для совершенного владения навыками.

Освещена усовершенствованная методика, теоретически определено и обосновано соответствие физических упражнений, сочетающих соразмерность нагрузок, функциональным возможностям растущего организма, основанное на разносторонней специальной подготовке, что позволяет расширить двигательный опыт юных дзюдоистов и создать фундамент их общей технической подготовленности. Подбор упражнений, а также условия их выполнения и количество повторений, зависят от учебного задания. Успех применения усовершенствованной методики во многом зависит от продуманной организации занятия при освоении учебного материала по борьбе, где важное значение имеет соблюдение методической последовательности в обучении и закреплении приёмов борьбы.

Подчеркнуто, что уровень развития общей и специальной физической подготовки в дзюдо влияет на правильность выполнения технических приемов, что, в свою очередь, является неотъемлемой частью в достижении высшего мастерства. Выявлено позитивное влияние усовершенствованной методики на уровень развития общей и специальной физической подготовки дзюдоистов 7–9 лет.

Ключевые слова: *дзюдо, методика, младшие школьники, физические качества, двигательные умения и навыки.*

Шуба В. В. Удосконалення розвитку загальної та спеціальної фізичної підготовки дзюдоїстів 7–9 років

У статті зазначено, що теорія та методика фізичного виховання, теорія спорту в останні роки розвивається значними темпами, поповнюючись новими даними та набуваючи дедалі практичнішого значення. Дзюдо є одним із видів боротьби, який найкраще впливає на розвиток бойового духу. Цей вид спорту є одним із відомих японських видів одноборств, який виник на основі джіу-джитсу. Дзюдо поділяється на боротьбу в стійці та лежачи (партері). Боротьба в стійці включає переміщення, захвати, вхід на кидок та проведення кидка. Контакт між суперниками починається з моменту захвату за кімоно. Цей вид спорту допомагає набути впевненості у власних силах, є засобом розвитку рухових якостей, а також сприяє формуванню мотиваційного ставлення до фізкультурно-оздоровчої діяльності.

Зауважено, що фізична підготовка – це педагогічний процес, спрямований на розвиток фізичних якостей (сили, швидкості, витривалості, гнучкості, спритності), функціональних можливостей органів і систем організму спортсменів, які створюють сприятливі умови для досконалого оволодіння навичками.

Висвітлено вдосконалену методику, теоретично визначено та обґрунтовано відповідність фізичних вправ, які поєднують співмірність навантажень, функціональним можливостям організму, що росте, засноване на різнобічній спеціальній підготовці, яка дає змогу розширити руховий досвід юних дзюдоїстів і створити фундамент їх загальної технічної підготовленості. Підбір вправ, а також умови їх виконання і кількість повторень, залежать від навчального завдання. Успіх застосування вдосконаленої методики багато в чому залежить від продуманої організації занять при освоєнні навчального матеріалу з боротьби, де важливе значення має дотримання методичної послідовності у навчанні та закріпленні прийомів боротьби.

Наголошено, що рівень розвитку загальної та спеціальної фізичної підготовки в дзюдо впливає на правильність виконання техніки прийомів, що, в свою чергу, є невід'ємною частиною для досягнення вищої майстерності. Виявлено позитивний вплив удосконаленої методики на рівень розвитку загальної та спеціальної фізичної підготовки дзюдоїстів 7–9 років.

Ключові слова: *дзюдо, методика, молодші школярі, фізичні якості, рухові вміння та навички.*