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PRACTICAL EXPERIENCE OF YOUNG ATHLETES' TACTICAL TRAINING IN MODERN OLYMPIC COMBAT SPORTS

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ТАКТИЧНА ПІДГОТОВКА ЮНИХ СПОРТСМЕНІВ У СУЧАСНИХ ОЛІМПІЙСЬКИХ СПОРТИВНИХ ЄДИНОБОРСТВАХ: ДОСВІД ПРАКТИКИ

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Abstract. The present work studied specifics of tactical training as an important side of training process in modern Olympic combat sports. In most scientific papers and official documents, the views on tactical training are contradictory and do not reflect all current trends of the development of Olympic combat sports.

The aim of the research was to analyze practical experience of athletes' tactical training in modern Olympic combat sports at the stage of previous basic development.

Material and Methods. We recruited 40 experts in Olympic fencing, boxing, wrestling, judo, taekwondo and karate. They were asked to fill out a form (questionnaire), which included 15 questions on athletes' tactical training such as directions, means and methods, control of tactical preparedness, components of tactical knowledge. In order to confirm the accuracy of the answers, the concordance coefficient (W) was determined in each group of experts. To compare the answers in different expert groups we also used the average rank.

Results. It was found that a lot of issues of tactical training were estimated as the most

Анотація. У роботі висвітлено специфіку тактичної підготовки як однієї з найбільш значущих сторін тренувального процесу в сучасних олімпійських спортивних єдиноборствах. У більшості наукових праць та офіційних документів погляди на тактичну підготовку є суперечливими та не відображають усіх тенденцій розвитку сучасних олімпійських спортивних єдиноборств.

Метою дослідження був аналіз практичного досвіду тактичної підготовки спортсменів на етапі попередньої базової підготовки в сучасних олімпійських спортивних єдиноборствах.

Матеріал та методи. У дослідженні взяли участь 40 фахівців з фехтування, боксу, боротьби, дзюдо, тхеквондо та карате. Їм було запропоновано заповнити бланк опитування (анкету), що містив 15 запитань щодо тактичної підготовки спортсменів. Серед них: напрями, засоби та методи, контроль тактичної підготовленості, компоненти тактичних знань. Для визначення ступеня узгодженості думок у кожній групі експертів обчислювали коефіцієнт

significant in most combat sports. The same was typical for the least significant issues. The agreement of experts' opinions in different sports within one question was average, strong, weak ($p<0.05$) or unreliable ($p>0.05$). In some questions expert's answers were similar, but in other questions they were different inside groups and between them. Average ($0.69W\geq0.5$, $p<0.05$) and strong concordance ($W\geq0.7$, $p<0.05$) was found in such groups of experts: fencing – about visual methods of tactical training; wrestling – about visual and practical methods; boxing – about directions and verbal methods; judo – only about visual methods; taekwondo – in all questions except verbal methods; karate – in all questions.

Conclusions. It is recommended to use the common algorithm for improving athletes' tactical preparedness with the possibility of its modification in particular kinds of Olympic combat sports. This algorithm consists of six steps and is aimed to study the basic elements, techniques, options of tactical actions which are essential for modern Olympic combat sports.

Keywords: fencing, boxing, tactical skills, knowledge, control, methods

конкордації Кендалла (W). Для порівняння відповідей у різних групах експертів також використано середнє арифметичне отриманих рангів.

Результати. Установлено, що більшість положень тактичної підготовки були оцінені як найбільш значущі в більшості груп експертів. Те саме характерно для найменш значущих положень. Ступінь узгодженості думок експертів із різних видів спорту в межах одного запитання міг бути середнім, сильним, слабким ($p<0,05$) або недостовірним ($p>0,05$). Відповіді експертів на деякі запитання були схожими, проте в інших запитаннях їхні думки відрізнялися всередині груп та між ними. Середній ($0,69>W\geq0,5$, $p<0,05$) та сильні ступені узгодженості думок експертів ($W\geq0,7$, $p<0,05$) виявлено в межах таких запитань: у фехтуванні – про наочні методи тактичної підготовки; у боротьбі – про наочні та практичні методи; у боксі – про напрями та словесні методи; у дзюдо – лише про наочні методи; у тхеквондо – в усіх запитаннях, крім словесних методів; у карате – в усіх запитаннях.

Висновки. Рекомендовано використовувати загальний алгоритм підвищення тактичної підготовленості спортсменів із можливістю його модифікації в окремих видах олімпійських спортивних єдиноборств. Цей алгоритм складається з шести кроків та спрямований на вивчення основних елементів, прийомів, варіантів тактичних дій, які є важливими для сучасних олімпійських спортивних єдиноборств.

Ключові слова: фехтування, бокс, тактичні навички, знання, контроль, методи.

Introduction. The development of combat sports at the present stage could be characterized by intensification of competitive activity, increase of rivalry in the international competition and, accordingly, the search for new ways of improving different sides of athletes' mastership [8, 10, 13, 14]. However, despite the large amount of scientific research, athletes' training system still has problems with practical use of accumulated potential of specialized knowledge and interpretation of the results of various tests [5, 11, 13, 14, 15]. On the one hand, tactical training in combat sports plays the decisive role for realization of athletes' individual opportunities in competition [15, 17, 18]. On the other hand, improving of athletes' tactical preparedness is one of the most contradictive questions in most martial sports [8, 10, 11, 15]. The content of official regulatory documents (programs for the sport clubs, curriculum at physical education colleges) and scientific literature [3, 4, 6, 7, 8]

proves this. In most works tactical training in combat sports is implemented in conjunction with technical [6, 7, 8, 9]. At the same time, in this tandem, technical training is dominant. Moreover, official documents clearly state the tasks of technical training, the algorithm of its implementation for athletes of different ages, recommendations on the selection of tools and methods, as well as tests to assess the athletes' skills. However, tactical training is described fragmentarily and does not reflect the current trends of the sport. In particular, information about the use of modern tools and methods of tactical training such as training devices and multimedia programs, as well as the newest means and methods of control, is practically not reflected in the programs for sport clubs [3, 4, 7, 12].

This situation is typical for most combat sports represented in the Olympic program. Thus, the scientific and applied problem of creating the organizational and methodological foundations of tactical training in combat sports is urgent. In our opinion, this study will help to implement tactical training as effective as possible and to make conclusions about the most appropriate algorithm of tactical training for young athletes in combat sports which are represented in the Olympic program.

The aim of the research was to analyze practical experience of athletes' tactical training in Olympic combat sports at the stage of previous basic development.

Material and Methods

Our research included few stages. Theoretical analysis and generalization were used during work with literary sources on the problems of research and identification of the main problems of tactical training in combat sports represented in the Olympic program.

The next step included expert's assessment (February – August 2019). There were 6 expert groups recruited. The total number of 40 experts included 8 in fencing, 8 in wrestling (freestyle and Greco-Roman), 6 in amateur (Olympic) boxing, 6 in judo, 6 in taekwondo WTF, and 6 in karate WKF. The experts were well educated (ten among them held Ph.D. diplomas) and experienced 4 coaches of the national teams (three of Ukrainian national teams, one of USA national teams), 2 world category referees, and 8 athletes–national team's members. On average, experts had almost 15 years of experience in training Olympic combat sports athletes of different ages. Each expert was asked to fill out a form (questionnaire), which included 15 questions. The questionnaires were administered to the experts in two different ways. 25 questionnaires were administered in a paper form and filled under the supervision of the researcher. The other 15 questionnaires were distributed by e-mail. Each expert was asked to rank the components of tactical training in each section. The number of components in sections ranged from 5 to 10. Rank 1 was always considered the most significant. The highest rank indicated the least important component (eg. in section with 9 components, rank 9 was the least important). In most questions, experts could add their components and to rank them, but none of them did.

In order to confirm the accuracy of the answers, the concordance coefficient was determined in each group of experts (W). The statistical validity of the concordance coefficient was verified using the $\chi 2$ criterion (Pearson's chi-squared test). According to Shiyan, Edinak, Petryshyn [16], the critical value of the concordance coefficient was defined as W=0.5. Therefore, at $0.69>W\geq0.5$, the agreement of experts' opinions was evaluated as average, at $W\geq0.7$ as high (strong), and at $W<0.5$ as low (weak).

To compare the answers in different expert groups we used the average rank (arithmetic mean of all ranks assigned to a particular position of tactical training provisions in every expert group).

Results

Analysis of experts' answers indicated that a lot of issues of tactical training were estimated as the most significant in most combat sports. The same was typical for he least significant provisions. At the same time, within some questions the degree of agreement of experts' opinions in different sports within one question could be average, strong, weak ($p<0.05$) or unreliable ($p>0.05$). As we can see from Table 1, there are various points of view on tactical training of young athletes in combat sports. In taekwondo and karate they are mostly similar, but in other sports sometimes they are contradictive.

Таблиця 1

Concordance of experts' opinions on the issues of tactical training for young athletes in Olympic combat sports (p<0.05)

Issues of tactical training	Concordance coefficient					
	1	2	3	4	5	6
Directions of tactical training	0.35	0.23	0.58	0.01*	0.56	0.83
Information Block "Basics of Tactics in Sports"	0.39	0.44	0.36	0.15*	0.71	0.76
Information Block "Competition performance"	0.26	0.31	0.25*	0.19*	0.82	0.74
Information Block "Theory and Methodology of Tactical Training"	0.13*	0.26	0.33	0.19	0.72	0.59
Verbal methods of tactical training	0.43	0.42	0.64	0.37*	0.49	0.75
Visual methods of tactical training	0.53	0.55	0.42	0.65	0.80	0.89
Practical methods of tactical training	0.26	0.62	0.33*	0.27*	0.71	0.72
Means and methods of control	0.14*	0.31	0.49	0.2*	0.79	0.73

Note. Numbers (groups of experts): 1 – fencing (n=8), 2 – wrestling (n=8), 3 – boxing (n=6), 4 – judo (n=6), 5 – taekwondo (n=6), 6 – karate (n=6); * – issues of tactical training, which were estimated as unreliable (p>0.05).

Among the directions of tactical training, the most important in fencing, wrestling, taekwondo and karate were recognized the study of the basic elements, techniques, options of tactical actions (average ranks – 1.50–2.12), in boxing – the study of the essence and basics of sports tactics (average rank – 1.67), in judo – practical implementation of tactical preparedness (average rank – 2.75). At the same time, in the opinion of all experts, the least significant trend is the improvement of tactical thinking (average ranks – 3.08–4.83).

Analysis of programs for the sport clubs, curriculum at physical education colleges, scientific and methodological literature in combat sports enabled to compose three information blocks which could be used for improvement of tactical knowledge: "Basics of Tactics in Sports", "Competition performance", "Theory and Methodology of Tactical Training".

In the formation of tactical knowledge within the first block the main accent should be made on the following topics: in fencing, boxing and judo – "The varieties and content of tactical techniques and actions" (average ranks – 2.25–3.50). In addition to this, boxing experts mentioned another topic – "Competition strategy and tactics." In wrestling, taekwondo and karate – "The importance of tactics in sports" (average ranks – 1.67–2.00). Experts also shared their views on the least significant topic. In fencing, taekwondo and karate the least time should be devoted to the study of the topic: "Current trends in the tactics of the chosen sport" (average ranks – 6.87–8.25), in wrestling – "Tactical plan, tactical scheme" (average rank – 7.12), in boxing and judo – "The interrelation of the athlete's specialized feelings with tactics" (average ranks – 7.00–7.83).

The most relevant topic of the second block is "Competition rules". In all expert groups, its average rank was from 1.00 to 2.83. In determining the least priority topic, the opinions of experts in all groups except fencing were identical – "Individual styles of competition performance" (average ranks – 6.25–9.00). In addition, in wrestling, besides the mentioned topic, there are no need for detailed conside-

ration of two: “Competition terminology” and “Participation of national and foreign athletes or teams in competitions of different level” (average rank – 6.25). According to experts, in fencing there could be neglected the topic: "National competition system" (average rank – 6.25).

Experts' answers about the importance of topics in the third block were similar in all groups except judo. In the first case, the most attention should be paid to the study of the topic: "Basics of tactical training in sports" (average ranks – 1.00–4.06), in the second – to two topics: "Planning of tactical training” and “Formation of a tactical plan and choice of a tactical scheme” (average rank – 3.50). Given that in the previous questions, judo experts preferred the practical implementation of tactical preparedness, we can assume that they seek to develop as early as possible a conscious attitude of athletes to improvement of their skills. On the other hand, these answers may indicate the coaches' desire to develop a decision-making not only in individual situations during matches but also throughout the training process. However, the control of the athletes' tactical skills should still be exercised by the coach. This is evidenced by the fact that the topic: "Control of tactical skills" ranked last in the judo expert group. In other groups, opinions were different. Thus, experts are convinced that in fencing and wrestling the least relevant for the formation of the tactical preparedness is the topic: "Model characteristics of tactical skills of elite athletes" (average ranks – 6.62–7.31). In boxing, taekwondo and karate, the topic is: “Forming a team, defining the functions of its members” (average ranks – 7.33–7.83).

When choosing verbal methods in fencing and wrestling, preference should be given to storytelling (average ranks are 1.25 and 2.12 respectively). In other combat sports it is better to use explanations to accomplish the tasks of tactical training (average ranks are 1.17–2.17). At the same time, when choosing the least effective verbal method of tactical training, the opinions of specialists again different. In fencing, taekwondo and karate experts mentioned a lecture (average ranks 4.50–5.67), in wrestling and boxing – analysis and discussion (average ranks 5.62 and 5.00 respectively), in judo – guidelines and recommendations (average rank – 5.33).

When selecting visual means, all experts, except judo, recommend to use, first of all, educational films (average ranks – 1.00–2.50). In fencing, experts recommend combining them using videos. Educational films were also identified as priority visual aids in judo (average rank 1.50). At the same time, in all groups, except wrestling, experts find it inappropriate to use graphs and diagrams (average ranks – 4.87–5.83), in wrestling – tables (average rank – 5.25). And only in fencing the last place in the ranking were both graphs and tables.

The leader among practical methods in wrestling, taekwondo and karate was training with a partner (average ranks – 1.33–3.67). In fencing, experts recommend improving tactical preparedness by training with an imaginary opponent (average rank – 3.13), and in boxing – combine both of these methods (average rank – 3.67), in judo – training with an opponent (average rank – 3.50). It should be noted that the answers to this question again confirm the assumption that in judo experts focused on the practical implementation of tactical preparedness. Instead, in other combat sports, athletes seamlessly prepare to demonstrate their capabilities in a competition, which is manifested in the systematic expansion of knowledge about tactics and tactical skills, an arsenal of tactical techniques and actions. At the same time, as in previous questions, the experts' answers were different when choosing the least significant practical methods. In fencing and boxing last place in the rating of practical methods was the referee practice (average ranks – 7.19 and 8.50 respectively), in wrestling and karate – conducting training sessions by athletes (average ranks – 8.87 and 9.33 respectively), in judo and taekwondo – learning tactical actions from other sports (average ranks – 8.17 and 9.83 respectively).

Among means and methods of control in all groups, preference was given to control standards (average ranks – 1.67–3.87). However, in taekwondo tactical preparedness is recommended to be assessed through the analysis of competitive performance (average rank is 1.67). At the same time, in fencing, it is not recommended to evaluate athletes’ tacti-

Table 2

The priority of combination of tactical training with other sides of training process

Sides of training process	Group of experts,%					
	1	2	3	4	5	6
physical	12.5			33.33		
technical	12.5	37.5	33.33			16.67
theoretical	25.0			16.67		
all sides	12.5	37.5	33.33	50.0	50.0	
theoretical and technical	25.0	25.0	33.33			66.67
technical and physical	12.5				50.0	
theoretical and psychological						16.67

Note. Groups of experts: 1 – fencing (n=8); 2 – wrestling (n=8); 3 – boxing (n=6); 4 – judo (n=6); 5 – taekwondo (n=6); 6 – karate (n=6).

cal skills by testing and topic-specific surveys (average rank – 6.75), in wrestling, boxing and judo – refereeing of training and competitive bouts (average ranks – 7.50–7.67), in taekwondo – use of technical devices (average rank – 7.75), in karate – conducting training sessions by athletes (average rank – 8.67).

The next question concerned the priority of the way of tactical training implementation. In other words, how to combine tactical training with other sides of training process. As illustrated in the Table 2, when choosing how to implement tactical training, experts' opinions were also different.

In fencing 25.0 % of experts recommend to combine tactical training either only with theoretical, or simultaneously with theoretical and technical. In wrestling, 37.5 % of the polled experts believe that tactical training should be better combined with technical, and another 37.50 % – with all sides. In boxing, 33.33 % of experts consider the most successful combination of tactical training with technical, 33.33 % – with theoretical and technical, another 33.33 % – also with all sides. In judo and taekwondo, 50.00 % of experts indicated that it was advisable to combine tactical training with all other sides. At the same time, the second half of the specialists in taekwondo are convinced that tactical skills are better perfected in combination with technical and physical. Among karate experts, 66.67 % voted in favor of combining tactical training with theoretical and technical training.

Discussion

Analysis of scientific literature indicates that the main accent in athletes' training is made on the development of technical and tactical skills [1, 2, 7, 8, 9, 11, 14, 15]. At the same time, in official documents (programs for sport clubs and colleges) tactical training is not substantiated properly [3, 4, 7, 12]. The most contradictory are questions about tactical knowledge which is basis for the development of tactical skills, amount of time spent on tactical practice in training process. Some of these questions were discussed in the works by Ryzhkova [15] and Kriventsova et al. [11]. Ryzhkova proposed a technology to improve the tactical preparedness of athletes by choosing the most adequate action among their variety according to the opponent's potential. In the works by Kriventsova et al. [11] similar approach was proposed for students-beginners. However, both technologies were developed only for fencers. As for other combat sports, the most works are devoted to improvement of tactical skills only in combination with technical [1, 2, 5, 6, 17].

It is obvious, that tactical training could not be separated from the other sides of training process. However, technical side shouldn't be dominant and the only one with which tactical

training could be combined. Moreover, our research proved that at the stage of previous basic development it could be combined with various sides. In fencing – with theoretical and technical or only theoretical, in wrestling – with all sides or only with technical, in boxing – with technical, or theoretical and technical, or with all sides. In judo and taekwondo with all sides. And in karate – with theoretical and technical, or technical and physical. The choice depends on the coach's approach.

It has been revealed that it is also possible to use the common algorithm for improving athletes' tactical preparedness, but there should be the possibility of its modification in different combat sports. It has been confirmed by the preference for similar issues of tactical training in most questions. Experts from different groups prefer the same components of tactical training, which testifies to the similarity of its tasks for young athletes in different combat sports. However, opinions on minor provisions are largely different. On the one hand, minor issues do not directly affect the success of the training process for young athletes. On the other hand, they have an indirect influence, forming the basis for further tactical improvement. Some experts see this potential in one positions, some see it in others. However, without a scientific verification for the priority of the issues, most coaches act intuitively, based on their own experience.

Conclusions. Due to the results of research, general algorithm of tactical training for young sportsmen at the stage of previous basic development should aim to the study of the basic elements, techniques, options of tactical actions which are essential for particular Olympic combat sport.

The developed steps of tactical training for them are: 1) To study the basics of tactical training in sports; 2) To get acquainted with the most essential tactical techniques and actions in the chosen kind of sport; 3) To learn more about competition rules; 4) To become conscious to the basics of tactical training in Olympic combat sports; 4) To study and improve basic tactical actions, using training with a partner or an imaginary opponent; 5) To analyze the quality of performance of these actions using control standards; 6) To get acquainted with additional tactical actions which may be used in future using storytelling, educational films and videos.

In some cases, within each step in specific sports there may be slight differences in tactical training, which correspond to the specifics of the sport. But in brief, the general algorithm of tactical training for young athletes at the stage of previous basic development in Olympic combat sports should include six necessary steps.

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Conflict of interests

The authors declared no conflict of interests concerning this manuscript.

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