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CHARACTERISTICS OF THEORETICAL TRAINING MEANS (ON MATERIAL IN FENCING)

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Характеристика засобів теоретичної підготовки (на матеріалі фехтування). Ольга ЗАДОРОЖНА[1], Мар'ян ПІТИН[1], Лариса КОЗІБРОДА[2]. *[1]Львівський державний університет фізичної культури, [2]Національний університет «Львівська політехніка», м. Львів, Україна, e-mail: pityn7@gmail.com*

Анотація. Перевірено ефективність алгоритмізовано-навчальних ігор як засобу теоретичної підготовки на етапі попередньої базової підготовки. Встановлено, що універсальними ігровими засобами теоретичної підготовки, які можуть бути використані при вивченні різних інформаційних блоків на етапі попереднього базової підготовки в фехтуванні, є «Пазл» і «Асоціація». Такі засоби як «Відповідність», «Знайти слово», «Розкажіть іншими словами» слід використовувати в різних комбінаціях. Більшість алгоритмізовано-навчальних ігрових засобів теоретичної підготовки «Асоціації», тренажер «ТТТ» і «Пазл» дали позитивні зміни в теоретичній підготовленості спортсменів у межах різних інформаційних блоків на 7,4–55,6%.

Ключові слова: теоретична підготовка, фехтування, алгоритмічні засоби.

ХАРАКТЕРИСТИКА СРЕДСТВ ТЕОРЕТИЧЕСКОЙ ПОДГОТОВКИ (НА МАТЕРИАЛЕ ФЕХТОВАНИЯ)

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Аннотация. Проверена эффективность алгоритмизированно-учебных игр как средства теоретической подготовки на этапе предварительной базовой подготовки. Установлено, что универсальными игровыми средствами теоретической подготовки, которые могут быть использованы при изучении различных информационных блоков на этапе предварительного базовой подготовки в фехтовании, являются «Пазл» и «Ассоциация». Такие средства как «Соответствие», «Найти слово», «Расскажите другими словами» следует использовать в различных комбинациях. Большинство алгоритмизированно-учебных игровых средств теоретической подготовки «Ассоциации», тренажер «ТТТ» и «Пазл» дали положительные изменения в теоретической подготовленности спортсменов в рамках различных информационных блоков на 7,4–55,6%.

Ключевые слова: теоретическая подготовка, фехтование, алгоритмические средства.

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Abstract. There was verified effectiveness of algorithmic educational game means of theoretical training on stage of previous basic development during training period. Established that universal educational game means of theoretical training, which should be used in the study of different information units during stage of previous basic development in fencing, are the «Puzzle» and «Association». Means «Showing», «Know the word», «Tell in other words», «Combat» should be used in different combinations. Most universal algorithmic game means of theoretical training are «Associations», Simulator «TTT» and «Puzzle», which confirmed positive changes in theoretical preparedness within the various information blocks of 7.4–55.6% of athletes.

Keywords: theoretical training, fencing, algorithmic means.

Problem presentation. The development of sport in general and especially fencing poses new requirements for a training process of sportsmen of different qualification [3, 5]. Especially, it concerns the stage of previous basic training, during which there is the need to form the foundation for further improvement of sports. One of solvation this problem is development of theoretical

training and selection of adequate means of implementation that meet the specifics of the training process for young fencers [3, 4].

As one of the problems of theory and methodology of athlete's training in fencing is to find ways for improvement the training process within the theoretical training, the urgent task is to develop new features (or devices) and test their effectiveness.

Analysis of recent research and publications. In the scientific and methodological literature on fencing theoretical training as a component of athlete's improvement has been considered only in works devoted to the classification of certain sections of the media [2, 5]. Moreover, the guidance and recommendations for its implementation in the training process of sportsmen of different age groups are absent.

Previous studies with the involvement of fencing experts revealed no consensus on the implementation of theoretical training at the stage of previous basic development by using different means and methods [4]. This, in turn, pointed to the need to develop appropriate means and devices, which would allow solving the problem of the training process within the theoretical training [2, 3].

Connection with academic programs, plans, themes. The research is planned according to themes 2.8 «Improvement of training of athletes in individual sports groups» Consolidated Plan research in the field of physical culture and sports in 2011–2015 the Ministry of Education, Youth and Sports of Ukraine.

The aim of research. To elaborate means and devices of theoretical training for fencers at the stage of previous basic development and test their effectiveness.

Methods: Theoretical analysis and synthesis, teacher observation, pedagogical experiment, methods of mathematical statistics.

Research organization. The study was conducted in several stages. The first one included test of theoretical training of 27 young fencers (stage of previous basic development), expertize of information blocks significance (within theoretical training), elaboration of a pilot program of theoretical training using algorithmic game means [2, 3, 4]. The second one included the implementation of a pilot program in the training process of young fencers in sport clubs «Rose» and «Athlete» in Lviv for period from 02/01/13 to 31/05/13 (first period of training process) and from 09/09/2013 to 12/20/2013 p. (second period of training process). After completion of both periods, there were conducted tests of theoretical knowledge of athletes and formulated conclusions about the effectiveness of particular algorithmic game means within various information blocks and sections.

Results. Analysis and interpretation of documents, including applications and programs for coach on different sports, scientific and technical literature, allowed us to determine that the main means of formation of theoretical knowledge. They are lecture, discussion, explanation and comments, instructions and recommendations, included in the group verbal methods, and show and demonstration that belong to the group of visual methods [2, 3, 4]. However, many authors emphasize the importance of the use of such means as diaries, analysis of special literature, organized meetings with famous athletes, monitoring the training process and competitive activity, instructor and arbitrage practice, the use of multimedia test programs [4, 5].

As one of the ways to improve the training process within the theoretical training at stages of sports development is a game is the method [2, 5], the author's experimental program was based on use of it algorithmic game means. The methodological basis also included the fundamental aspects of theoretical athletes' training [4, 5], data of expert evaluation of the significance of the components of theoretical training in fencing at the stage of previous basic development [2, 4].

Summary of the peer review results also made it possible to determine the significance of particular information blocks within theoretical training. Five blocks were evaluated from 3.2 to 3.35 points, which proved the impossibility of selection of some of them as most important for the study. However, the level of significance of the content of these blocks had differences, which were taken into account when developing the experimental program.

Thus, within the information block «History of fencing» the focus was on studying information about famous figures in fencing, well-known national and foreign fencers, Ukrainian coaches, the development of fencing in Ukraine and in the world. In the block «Competitive activity in fencing» – information how to assess the effectiveness of athlete' action, norms of behavior among participants, refereeing, the requirements for uniforms and equipment, use of fencing terminology. Within the block «Technique and Tactics of fencing» – information on technical actions and combative tactics.

Within the block «Fundamentals of the theory and methodology of athletes' training» the most important material was connected with the safety rules during training and competitions, care for the physical shape and inventory, the main types of faults and their elimination, the cause of injury prevention. Within the block «Olympism» most attention was paid to the information on the Olympic movement in Ukraine, famous Ukrainian athletes and coaches.

Thus, the first difference between author's experimental program and generally used was connected with using information materials on blocks: «The history of fencing», «Competitive activity in fencing», «Technique and Tactics of fencing», «Fundamentals of the theory and methodology of athletes' training», «Olympism» with accented consideration of particular units.

Another difference between the author's experimental programs was to increase the total annual hours for theoretical training from 2.2 to 4.4% due to the introduction of additional classes of theoretical training, which was caused by the introduction of additional information block regarding Olympic theme.

The third difference was connected with using not only traditional means and methods of theoretical training (lecture, discussion, explanation, commentary etc.), but also algorithmic game means.

Author's experimental program was designed for two periods of training: the first – from 01.02.2013 to 05.31.2013, the second – from 09.09.2013 to 12.20.2013.

The first period of training included 56 training sections, the second – 49. The duration of training sessions in both periods ranged from 90 to 120 minutes, while the theoretical training took 15 minutes. In case of additional theoretical training sessions, its duration increased to 30 minutes.

The list of algorithmic game means included «Anagram», «Puzzle», «Tell in other words», «Duel», «Association», «Show me», «Brain-ring», «Code», «Guess the word», «Fencing position», device «Trainer for fencer's preparation «TTT».

The feature of algorithmic game means was the availability and application of the five modified blocks of information: «The history of fencing», «Competitive activity in fencing», «Technique and Tactics of fencing», «Fundamentals of the theory and methodology of athletes' training», «Olympism».

Using the algorithmic game means was provided in accordance with an algorithm that included consecutive steps:

1) acquaintance with the content of the game;

2) the location of all game elements on the table in any order;

3) search and relevant parts of the task;

4) determination of winner by a set of factors (speed of the task, the quality of its execution);

5) analysis and discussion of the game, showing the advantages and disadvantages of conducted actions of the participants.

The list of algorithmic game means use is presented below.

«Anagram». The game is presented by card with a set of letters for the three levels of difficulty (easy, medium and difficult). Each letter is a part of term, which is related to the theory of chosen kind of sport (in Ukrainian transcription). However, as the official language for international competition is French, we included also terms in French transcription.

The goal of game is to develop athletes in logical thinking, introduction to basic concepts relating to various information blocks. Rules. Number of players: 5–10. Upon reviewing the content of the game, each player gets a set of 10 cards for one of difficulty levels, paper and pen. For a set

time (3 to 5 minutes), all ten terms should be composed. The game continues until the time expires. For each correct word composed player receives: easy level – 1 point per word; medium – 2 points; difficult – 3 points. Correct answers are checked when time is up. The winner is the player who scored more points.

Options for modification (for individual or team event): determination of the winner by the number of points after the implementation of each of the difficulty levels; determination of the winner by the total points obtained for all levels; determination of the winner in speed task without fixing time.

«Show me». The game is presented by cards with words, that related to the theory of chosen kind of sport. The goal is to stimulate cognitive activity athletes, acquaintance with the basic terms of different information blocks. Rules. Number of players: 5–10. Upon reviewing the content of the game, players are divided into teams. The cards are laid on the table laid (letters down to the players). Each team chooses one player who receives a card with the word and has to show his team, using facial expressions, gestures or pantomime. If the team gives the correct answer during the fixed time to run (30 seconds), it accrues 1 point. After the first team has given a response, the game comes to second team, then – to the third, etc.

«Tell in other words». The goal is to stimulate cognitive activity of athletes, develop logical and associative thinking and expand knowledge of various information blocks. Rules. Number of players: 8–10. The procedure of the game is similar to that used in the game «Show me», but different in that the player received a card with the word, should explain it to his team using synonyms, antonyms and phrases. The winner is the team that conjectured more words.

«Association». The goal is to develop athletes' associative thinking and learning the basic terms, related to various information blocks. Rules. Number of players: 5–10. Players are divided into teams. The leader calls time. Each team has 1 min to recall the maximum number of words that are associated with this term. After the time finished, each team in turn calls the word-association. Each word-association can be called only once. If within 5 seconds the team does not mention the word-association, it leaves the game. The winner is the team that has called more word-associations then others.

«Duel». The goal is to introduce the basic concepts and facts that constitute the various information blocks. Rules. Number of players: 812. Players are divided into two teams. The leader chooses one of the information blocks. Each team should come up with 5 questions within a specified information block. After the time expires teams in turn ask each other questions. Each team has 30 seconds to find the answer. For the correct answer is awarded with one point. The winner is the team that scored more points.

Options for modification. If the game involved 4 teams, the possible to use system of playoff: with the draw commands defined numbers (1 to 4). In the first round first team meets with the fourth, the second one meets with the third. The team that wins comes into the second round. In the second round the same way the winner of the game.

«Puzzle». The goal is to develop logical thinking and increase knowledge about the world famous fencers. The structural components are puzzle, which depict a reduced rate of world famous fencers. For a better perception, depicted elements also present sports equipment. Rules. Number of players: 8–12. The goal of the game provides the right mix of puzzle components with the formation of the final version of a holistic picture. This in the construction of some plot information blocks (images of athletes), the participants of the game by using the leading independently determine whether an athlete and a person by studying additional information material introduced to his sporting achievements.

Each photo has a serial number. The player or team of players should make a puzzle (a picture) in minimum time. You must specify which of famous athletes depicted on each of the photos. The winner is the player or team who most likely do the task correctly, and the names of all athletes who are depicted in the photos.

«Guess the word». The game goal is the development of logical thinking and increase knowledge of various information blocks. Rules. Number of players: 8–12. Each player writes a word on

a paper, which is associated with a particular information block. Then each player should stick leaf on the forehead with the word neighbor, who should not know what the word is, but others see it. Each player in turn asks a question that you can answer «yes» or «no» to interpret the word. If the answer to the question: «Yes», the player can ask another question until you get the answer «No», then move to the next player passes. The game continues until all players conjecture all words.

«Code». The goal is to develop logical thinking, stimulating cognitive activity athletes and increase knowledge of various information blocks. Rules. Number of players: 8–10. Players are divided into two teams. The leader chooses the particular information block.

During the fixed time each team should «encrypt» several terms on a sheet of paper. «Encryption» means using pictures, letters or other characters. After the time is up team sheets are exchanged with the other team. During each team has 3 minutes to do the task. The team gets 1 point for a correct answer. The game can be held in several rounds. The winner is the team that has more points.

«Brain-ring». The goal is to develop logical thinking, stimulating cognitive activity and improve knowledge of various information blocks. Rules. Number of players: 8–16. Players are divided into four teams. Each team in turn answers questions from different information blocks. The team is given 30 seconds for the answer. For each correct answer the team gets 1 point. The winner is the team that will take more points.

The main goal of the process (product model game) involves the development of logical thinking in athletes who are in the early stages of long-term training and increase knowledge about the fighting in fencing.

The mentioned algorithmic were used during first part of the experiment. During the second stage of the experiment the training process was supplemented by other means.

Model game means «Algorithmic mean of theoretical training in sport» and «Fencing position». The basis of both means are fragments (total 30 and 27), which depict the kinds of positions in fencing. The goal is to familiarize the athletes with kids of technical and tactical actions in fencing. Rules. Number of players: 4–6. The goal of the game is provided the right combination of fragments to the whole picture. Second stage is explanation of the goals and ways of using of mentioned actions during fencing match.

Simulator «TTT». Using the simulator «TTT» is aimed at solving problems of increasing levels of quantitative and qualitative parameters of implementation specialized technical and tactical actions of fencers based on the formation of specific theoretical knowledge of a given algorithm of intellectually-developmental tasks.

Simulator for improvement of complex technical, tactical and theoretical training of fencers is a vertical platform, in which placed the taskbar (estimated at 5 tasks), the cover the taskbar (which allows to prevent premature perception information from images) panel of responses (generated for four possible answers to each of 5 tasks), button «Start», an indicator of the total execution time of complex of tasks, the button «Stop» for completed tasks (for each separately), time indicator of the task (for each separately).

There are attachment of two sets of cards, one of which contains intellectually developmental tasks of technical, tactical and theoretical training in fencing, and the second – the answers to them. The basis of the use of simulators (examples 1, 2 and their modifications) assigned consistent solution by sportsman five intellectually developmental problems by choosing the right options. At the same time occurs the fixation specific tasks and their complex.

Option 1: intellectually developmental tasks of technical, tactical and theoretical training of fencers on the theme: «The positions in fencing». Algorithm:

1. Acquaintance with meaning of the exercise.

2. A Location on the taskbar five cards with the tasks, which shows the types of positions in fencing.

3. Before the signal the coach «Start» task is closed by a cover to the taskbar, which allows you to prevent premature perception information from images.

4. A location on the panel of answers cards with multiple choice (four possible answers to each of the five tasks) that contain the names of positions in fencing.

5. The signal of coach «Start» after which the athlete takes off cover of taskbar and light of total execution time of complex tasks turns on.

6. Choosing by athlete correct answer for each of the five tasks (selecting names shown position in fencing) with a push button to stop the executed task.

7. Analysis of the flow of the game by checking the correctness of answers and comparison of results (time) of performance of each of the five tasks and complex.

The proposed simulator for technical, tactical and theoretical training of fencers allows to improve qualitative and quantitative, technical, tactical and theoretical skills and overall athletic performance by reducing the time spent on the perception of specific information processing and forming responses to the actions of opponents, increasing of scope of operational information in the tactical thinking of fencers.

This article presents the results of test of the educational and entertaining tools effectiveness that were used during the first period of training. To consider the theoretical material within the individual information blocks and sections used one or two tools, within the other – their complex.

Within information block «History of fencing» the most effective combination of educational and entertaining means was «Association» and «Puzzle», «Association» and «Code». This was indicated by the increase of theoretical preparedness in questions about the organization that manages the development of fencing in the world and the countries in which in the XIX century – 40.7 % and 48.1 % of athletes.

It is interesting that the comprehensive use of the «Code», «Association», Simulator «TTT», «Puzzle», «Duel» and «Brain-ring» in the study of theoretical material for other issues of an information unit contributed less significantly – 4.4–14.8 % of athletes. In our view, this confirms the need to study particular units of information using one or two narrowly targeted means, rather than use of a large number of means.

Analysis of changes in the theoretical preparedness of sportsmen on information block «Competitive activity» pointed out the priority of means «Association», Simulator «TTT», «Code», «Puzzle», «Show me» and «Brain-ring». Proof of this was positive growth of theoretical preparedness of 22.2–33.3 % of athletes on questions related to the conditions of admission of participants in team competitions and penalties for deliberate push and turn during fencing match.

A similar situation was observed in the analysis of the effectiveness of educational and entertaining means to form the theoretical preparedness within the information block «Technique and Tactics of fencing». The most effective were complexes of the means «Association», «Anagram» and «Brain-ring»: «Show me», «Puzzle» or «Code». Using different combinations of these means boosted the increase of theoretical preparedness of 40.7–55.6 of athletes.

The most successful in the study on information block «Fundamentals of the theory and methodology of athletes' training» was the use of a means of «Association», «Guess the word» and «Duel», «Code» and «Tell me otherwise», «Association», Simulator «TTT», «Guess the word» and «Show me». Proof of this was the increase in theoretical readiness of 22.2 % of athletes.

Within the information block «Olympism» the most effective combination of the means was «Show me», «Puzzle», «Association» and «Anagram». The increase of theoretical preparedness was confirmed by 33.3–51.9 % of athletes, who responded correctly to questions about the Olympic Games of ancient Greece and the Olympic slogan. Other options for combining these assets contributed to the increase of theoretical preparedness of 3.7–11.1 % of athletes. Least effective was the use of a means of «Anagram», «Puzzle», «Guess the word» and «Brain-ring» to study the information on the figure of the eighth IOC President Jacques Rogge.

To sum up, the most effective means of theoretical training within all information blocks are «Association», Simulator «TTT» and «Puzzle». On the other hand, theoretical material within particular units should be studied by various combinations of other means.

Prospects for further research include the development of new educational and entertaining means of theoretical training at different stages of long-term development.

Conclusions: 1. There was elaborated and scientifically substantiated the author's experimental program of theoretical training in fencing at the stage of previous basic development using algorithmic educational game means.

2. Efficiency of algorithmic game means of theoretical training confirmed by higher theoretical preparedness within particular units of information blocks of 3.7–55.6 % of athletes at the stage of previous basic development.

3. Most universal algorithmic game means of theoretical training are «Associations», Simulator «TTT» and «Puzzle», which confirmed positive changes in theoretical preparedness within the various information blocks of 7.4–55.6 % of athletes.

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