

Managing the training of a sports reserve in nordic combined in the conditions information and communication environment

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Abstract

Objective of the study was to develop a methodology for managing the training of a sports reserve in Nordic combined with the use of an information and communication environment.

Results and conclusions. A technique for managing the training of a sports reserve in Nordic combined based on an information and communication environment has been developed, implemented within the framework of a conceptual block that determines the theoretical and methodological foundations for managing long-term sports training, a diagnostic block that allows determining the current level of preparedness of athletes and features from morphofunctional and physical development, a block managerial influences aimed at making decisions by the coach on the advisability of making changes to the current plan of sports training and the training program of Nordic skiers, a control block that evaluates the effectiveness of the pedagogical influences proposed by the coach in the system of staged long-term training of Nordic skiers.

Keywords: *methodology, management, sports reserve training, information and communication environment, Nordic combined.*

Introduction. An analysis of theoretical materials and a generalization of practical experience made it possible to identify the problem of insufficient informatization of the preparation of a sports reserve in Nordic combined [1, 2, 3]. The established features of the training of Nordic skiers made it necessary to take them into account when developing an information and communication environment (hereinafter referred to as ICE) in order to objectively collect, process, store and analyze data on preparedness in order to identify the most promising and talented athletes at each stage of the long-term formation of sportsmanship. The ICE was developed by researchers and software engineers of the university within the framework of the relevant research work within the framework of the state task approved by the Ministry of Sports of the Russian Federation, Tchaikovsky State Academy of Physical Culture and Sports.

However, only the creation of an information and communication environment without an appropriate methodology based on systemic control and monitoring surveys and making changes to the training plan and program of Nordic skiers cannot ensure its integration and effective implementation in the conditions of a staged long-term training of a sports reserve in Nordic combined.

Objective of the study was to develop a methodology for managing the training of a sports reserve in Nordic combined with the use of an information and communication environment.

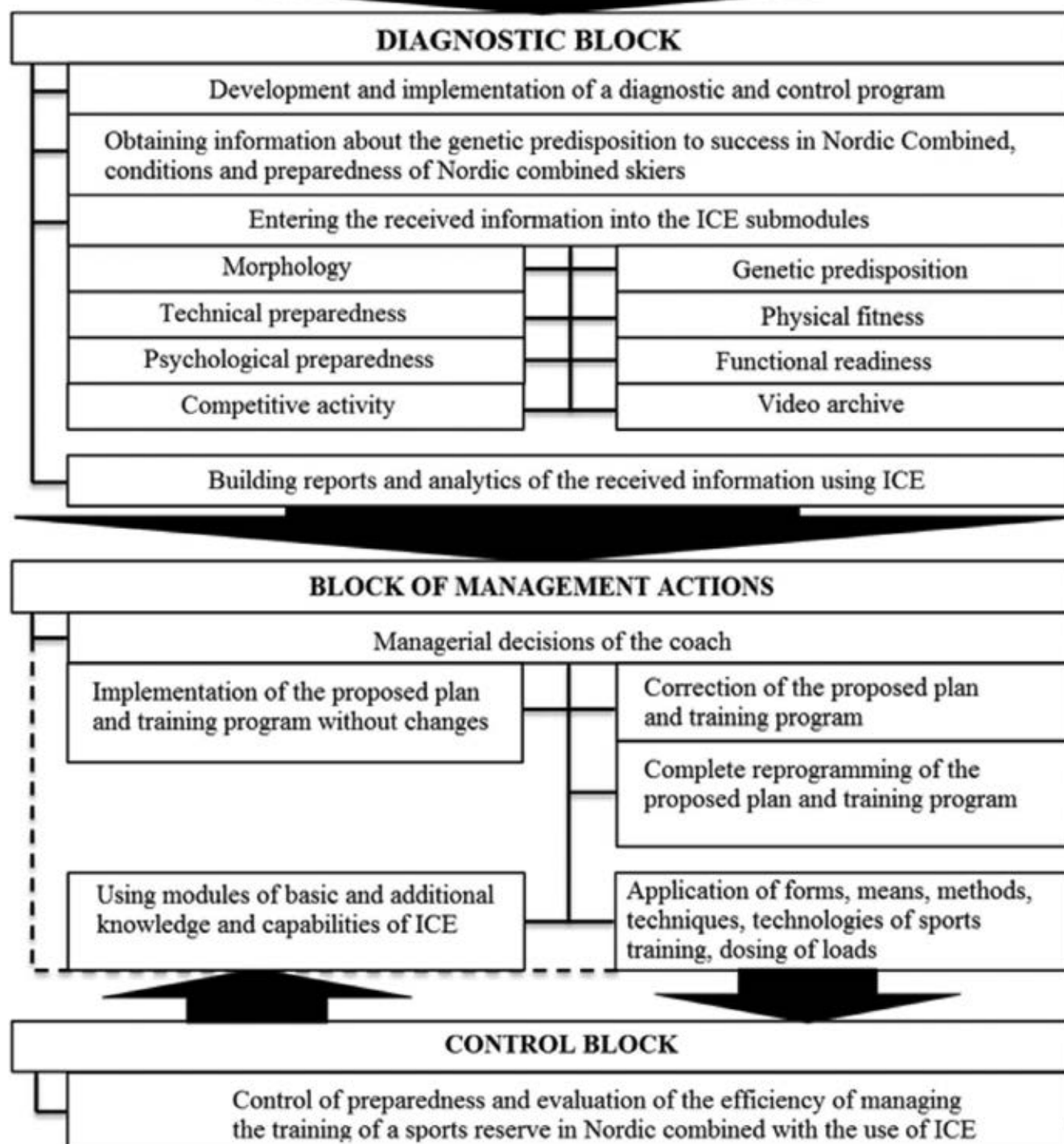
Results of the study and their discussion. The results of our previous studies [1] related to the informatization of the sports training of Nordic skiers have created favorable opportunities for developing a methodology for managing the training of a sports reserve in Nordic combined based on the information and communication environment (hereinafter



referred to as ICE), which is schematically shown in the figure.

The content of the methodology consisted of key blocks: conceptual, diagnostic, managerial influences and control. Let's consider each of them in more detail.

Concept block. The content of this block of methodology included the key methodological components of the study: purpose, objectives, scientific and methodological approaches, and organizational and methodological principles. In general,



Scheme of the methodology for managing the training of a sports reserve in Nordic combined based on the information and communication environment



the conceptual content of the methodology sets the direction for its implementation in the sports training of Nordic skiers.

Diagnostic block. The program of diagnostics and control is based on the scientific potential of the Tchaikovsky State Academy of Physical Culture and Sports laboratory, which has modern equipment for conducting systematic research in the field of genetics, bioimpedancemetry, sports biomechanics, tensodynamometry, ergometry, physiology and psychology, as well as summarizing the practical experience of pedagogical testing of athletes in Nordic Combined [2].

The section of the control program "Genetic predisposition" was implemented in two directions: the first one is connected with the determination of the athlete's potential to achieve high results in Nordic combined, the second one - with the identification of nutritional characteristics. The genetic predisposition to success in Nordic combined is carried out in the form of stage control only for those involved in the initial training stage. The study of predisposition to the assimilation of food products is also carried out in the form of staged control, however, this opportunity is provided to athletes of any age and qualification.

The control section "Morphology" is associated with the use of instrumental methods: the Antroscan morphological scanner and the InBody body composition analyzer. Determination of anthropometric indicators is carried out in the form of staged control for Nordic athletes of all stages of long-term sports training. However, the use of bioimpedancemetry is carried out differently depending on the stage of sports training.

The section "Physical fitness" includes two areas that evaluate the indicators of general and special physical fitness of Nordic skiers. To conduct a survey of athletes of a general physical orientation, pedagogical testing is used with an approved battery of control tests and an isokinetic dynamometer Biodex, which are carried out in the form of a staged control. At the same time, the isokinetic dynamometer is used only when examining athletes, starting from the training stage. When conducting surveys of a special physical orientation, pedagogical testing is carried out in the form of a staged control for athletes of all stages of sports training, and tensodynamometry is implemented in the preparation of athletes at the final stages in the form of current and staged control.

The section "Technical preparedness" also includes two major areas related to the definition of jumping and cross-country skiing. Diagnostics of technical readiness is realized with the help of biomechanical analysis of athletes' movements during their performance of special or competitive exercises, which is carried out in the field in the form of current and staged control by means of a computer system for video analysis of movements, which allows studying the angular and spatio-temporal characteristics of athletes without age restrictions.

The section "Functional readiness" is also associated with the implementation of control in two tracks: the first one is focused on diagnosing the activity of the cardiorespiratory system of the body of athletes, the second one evaluates the work of the neuromuscular system. The assessment of the functioning of the cardiorespiratory system is carried out using the methods of ergometry and gas analysis in a staged form of control for athletes training at the training stage and older.

The section of the control program "Psychological readiness" is carried out by means of diagnostics of individual psychological properties of the personality in the form of staged control without age restrictions for athletes.

The section "Competitive activity" consists of two key areas that evaluate the jumping part of the competition and the skiing part. Both directions of this section are controlled using the competitive activity assessment method in the form of current and staged control for athletes at each stage of sports training.

Taking into account the requests of coaches and athletes in Nordic combined, the ICE software provided and implemented a whole section for managing the training of a sports reserve in Nordic combined based on entering information about the results of scientific examinations of athletes into the information database module, which consisted of special submodules that fully corresponded to the sections diagnostic and control programs, allowing to accumulate information about genetic predisposition, morphological features of the body structure, physical, technical, functional, psychological readiness and competitive activity, characterizing both sports disciplines of Nordic combined: ski jumping and cross-country skiing.

Block of managerial influences. The management of sports training is largely carried out through a



pre-drawn plan and a developed training program that takes into account age, gender, period of the annual cycle, the stage of sports training, as well as the timing and venue of the main, qualifying and control competitions [4, 5].

The results of diagnostics and control over the preparedness of Nordic skiers are one of the grounds for making changes to the plan of sports training proposed by the coach. Summarizing the practical experience of scientific and methodological support of Nordic athletes' sports training showed that after studying and analyzing the results of athletes' examinations, the coach can make the following managerial decisions: continue the implementation of the originally proposed plan and training program without making changes; carry out the correction of the proposed plan and training program; completely abandon the proposed plan and training program and develop new ones.

The control block was the final component of the experimental procedure. The content of this block was identical to the content of the diagnostic block, since the same means, methods, procedures and forms of control were used. The difference was that in the diagnostic block, the athletes performed the first examination to identify the current level of preparedness (in accordance with the developed plan), while the final examination of the combined athletes was carried out in order to control the effectiveness of the training plan proposed by the coach (taking into account changes) and belonged to the control block. After comparing the results of athletes at the beginning and end of pedagogical influences using ICE, the coach made a decision on the advisability of continuing the training process according to the plan being implemented.

Conclusion. The system of successive control and monitoring examinations of Nordic skiers' preparedness, developed by scientists and specialists of Tchaikovsky State Academy, created favorable

conditions for the selection and sports selection of Nordic athletes from among the sports reserve in order to identify those involved who have really high potential and great inclinations to achieve sports success in Nordic Combined at every stage of many years of sports training.

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