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Research on effective application of sports biochemistry in sports teaching and training

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ABSTRACT

Exercise biochemistry is a young science in competitive sports and mass sports are very important. Gradually by coaches and masses to understand and accept, become the important theoretical basis for the scientific training and scientific training. Therefore, through the establishment and development of exercise biochemistry subject, as well as the biological science and the development of sports science, exercise biochemistry at present should be adapted, in order to accelerate the development of sports science. Based on the development process including the subject of exercise biochemistry, proposes the tasks and direction of current. Exercise biochemistry is isolated from the body science meters in a basis of biological chemistry from several full research movements in the life of science. The human body all life activities are achieved by a series of chemical changes in the body, the movement of people Hugh Hugh I revealed in the essence of it works and training activities of life, from the more scientific sports teaching and sports training.

KEYWORDS

History of exercise biochemistry; Sports; Current tasks of exercise biochemistry.



INTRODUCTION

Exercise biochemistry is a young science in competitive sports and mass sports are very important. Gradually by coaches and masses to understand and accept, become the important theoretical basis for the scientific training and scientific training. Therefore, through the establishment and development of exercise biochemistry subject, as well as the biological science and the development of sports science, exercise biochemistry at present should be adapted, in order to accelerate the development of sports science.

The history and development of sports physiology and biochemistry, physiology and biochemistry are very young and rapidly developing discipline. Exercise physiology attributable to human physiology, it is mainly revealed in the motion stimulus, response and adaptability to changes in body structure and function. It was not until the late nineteenth Century, people began to pay attention to muscle physiology human activities of science.

In 1889 Grange edited and published a "body movement", marks the exercise physiology has developed into 1 separate discipline, laid the foundation for the development of sports physiology in twentieth Century. Our country starts late development physiology. In 1940 the physiology senior professor Cai Qiao wrote "physiology" one book, the content is more with the physical consumption of labor physiologically relevant.

Until 1954 the Beijing Sports Institute established in exercise physiology graduate studies, and invited the former Soviet Union expert instruction and guidance of scientific research work, marking the exercise physiology in China become the 1 door single subject, at the same time, also lays the foundation for the development of our science physiology. Exercise biochemistry belong to the biochemistry and physiology of the human body, it is main to reveal the movement of material energy metabolism and regulation rules and characteristics, to explore the mechanism of changes in body function exercise at the molecular level.

In 1955 the former Soviet Union experts H.H. young to husband Lev published in the "Outline" exercise biochemistry, marking the sports biochemistry as 1 separate disciplines. Set of chemistry curriculum movement creatures of our country in 1956, and published in 1960, written by Professor Feng Weiquan of the first "China sports biochemistry" notes. The development of sports physiology and promoted the development of the sports biochemistry,

RELATED FACTORS

There are many related factors, just as the following figure shows:

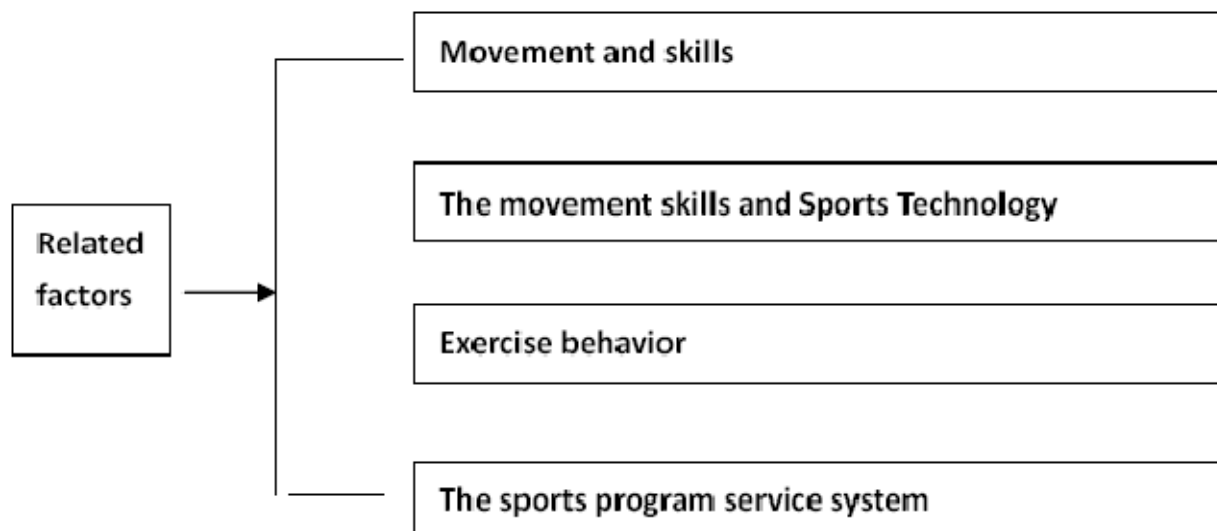


Figure 1 : Related factors

Movement and skills

What is the movement (Sport)? Movement is meant to leave work, is a concept and corresponding to the. It has no fixed meaning in English, usually contain. "Entertainment, entertainment, games, play games, outdoor activities, etc.. Han month movement refers to special contest. In this activity, individual or collective in order to give full play to the physical (specific performance for the record I or match winning) and intensely engaged in various physical exercises. "Oxford Advanced Learner's English Chinese Dictionary" interpretation is that exercise is for entertainment and fitness of the body, usually in the outdoor game. }z6} from the above definition of motion can be seen: a broad movement consists of two basic elements, one is the entertainment, two is the game. The movement of the senior forms a competitive (Athletics or Elite Sport its essential attribute should be physical culture.

The narrow sense refers to the movement of the human body through various activities, biological transformation of the mind and body. Its essential function is the entertainment, recreation and fitness. Thus derived from the social functions include culture, education, political and economic aspects, which further illustrate the importance of movement in the human society life.

What are the skills (Skill)? The basic meanings of several representative point of view. The: ability to use knowledge and experience to perform certain activities called 'skill'; through repeated practice to achieve rapid, accurate and skillful skill is called" proficient ", also called the 'skill'. If just learn to write only writing skills, must through repeated practice can form the calligraphy. The formation of both is to consolidate and develop the existing skilled, but also form new skills. Technical ability and skille only in practice, through practice, formation and development of ability." "English-Chinese dictionary of education" to the skills is defined: "skills is through practice and repetition and reflect on the acquisition of physical fitness, heart or social ability. To improve the ability of individuals may always endless." Some recent views published works of psychology, just as the following figure shows:

TABLE 1 : 1500m men's freestyle world record evolution

Year	2011	2001	1995	1987
The result(total)	14:34_14	14:41.66	14:54.76	17:52.9
The result(part)	59.7	61.6	71.5	91.2

People skills is successfully completed a task action activities or intelligence activities, which is also known as the operation skill or skill, which is also known as the intellectual skills or cognitive skills.". In addition, some scholars put forward new points of view on modern skills from the perspective of cognitive psychology, they thin skill is sequential operation in specific target instructions, the mastering of technology and application level description." This view will skills can be divided into three categories: the first category is the skill, ability is the coordination of body movements: second and third respectively for the intellectual skills and cognitive strategies. Extension of these definitions of the wide, wide coverage, but in sports skills, appears to be too general. But the traditional classification is more detailed, especially the cognitive strategies as a skill up, and treat it as an important task of teaching, the teaching is more important.

The movement skills and sports technology

What are the motor skills (Motor Skill)? Scholars explain on movement skill concepts are not the same. Foreign scholars more representative view is: Karen Bach thinks, ']: "motor skill is learned, can accurately perform and the composition of the action with little or no need to pay attention to the conscious operation". Woolfolk is a series of body movement skills defined pseudo "to complete the action required knowledge and the ability to move". Gagne believes that motor skills is the ability to coordinate movement, includes two meanings: one is the description of how to carry out the rules of the sport, two for practice and feedback and gradually become accurate and consistent actual muscle activity." think, "motor skills is high standard of performance and to achieve the purpose or task". In

addition, some authoritative or academic views are: "the essence of movement skill is acquiring method and steps, and its significance lies in the accuracy and timing of individual movement technique, the process is divided into.

We should try and find the principle, repeated contact, skilled or automation S stages process of motor skill formation has a program by receiving information image a build action procedure, issued a directive a completed action, form the feedback adjustment of three links." essence of sports skills is to control the behavior of concepts and rules on the time of its operation, smooth and accurate reflect the behavior of the degree of internal organization in these views, Gagne and Magerl's definition of motor skill in sport. We can conclude from the above definition: motor skills of the target, perception, action and practice of four basic elements.

Exercise behavior

Types of human behavior is various, diverse forms. The basic characteristics of understand the mechanisms and control for our understanding of motor skill execution, learning performance, and to provide theoretical support. The motion behavior of Motor Behavior) is a science of human genetic and goal oriented action. It consists of motor learning (Motor Learning), motion control (Motor Control) and sports (Motor Development) three branches. The motor learning refers to people through practice of the skill master of action; motion control to occur, implementation and control process and influence of various variables of the process as the research object; motion development refers to the person skilled motor performance changes with time and the development process, changes in motor behavior in human body growth interaction development and environment are reflected in as the object of study.

This shows that the object of study are three sports behavior, although some content between each other are intertwined in a certain extent, but in the direction of the development is the emphasis.

The sports program

Although the exercise program (Motor Program) theory can't explain how people generate new motor skills and varied forms of exercise, but it helps us understand some skill functional organization activities. Therefore, further discussion on sports skill, is necessary to introduce the "procedures" such a concept. The sports program refers to control those almost without thinking can be carried out automatically motor skills device to form after the movement skill practice for a long time, just as the figure shows:

TABLE 2 : Endurance speed ratio

	Backstroke	Breaststroke	Butterfly
Gender	210	200	200
Female	216	217	222
Male	213	214	219

Movement procedure control of two kinds of time is very short (less than 200-250 MS), an instantaneous action. Sports program in the control of first class sports skills, can be separated from the peripheral sensory feedback can also refer to the peripheral sensory feedback. Sports program in the control of second kinds of sports skills, is in the action before the start will complete the action of all instructions in the action in the process of disposable issued instructions without any modifications (regardless of whether the program is wrong). In the action after the end, to recall again peripheral feedback sense traces and reference action effects (such as the shot is hit) to modify or recognized sports program, for the next operation with the action. Sports program is abstract, not completely closed, not completely stable characteristics, including fixed and variable two parameters.

THE NATURE AND CHARACTERISTICS

Essence is the internal relations of things, which is composed of the inner contradictions of objects, which is the most basic and most stable aspect of things, once lost will no longer be factors of motor skill. The essence of sports skills really exist? If there is, what is it in the introduction part lists of sports skills and related concept, the essence of sports skills had made some answer. Next, based on the introduction part description and Analysis on the essential characteristics of motor skills, at the same time, according to the needs of this research, the essence and character of and tries to reveal the movement skill.

Firstly, fitness coach including athletic fitness coach and physical fitness coach two. The professional training of fitness coach is the job fitness coach in sports training and sports guide field, relying on the related sports discipline, comprehensive, systematic and standard of education and training of practitioners.

Secondly, master professional required professional knowledge and professional skills, with comprehensive professional quality and the good performance of the professional ethics, enhance the profession competitive ability, become the growth process has a professional fitness coach. Its contents include three aspects of professional education, vocational training and certification.

Thirdly, construction should analysis, according to the system of target architecture system environment analysis, ideas of system reliability analysis of the fitness coach professional training system in china. Should build principles include the objective principle, systematic principle, advanced principle, operational principle, development principle, follow.

Fourthly, our fitness coach professional system training as follows: education system, training system and authentication system. These three elements itself is a subsystem composed of other elements, influence each other, mutual connection and interaction between subsystems, so as to form a complete Chinese can coach professional training system.

According to the concept of the introduction of motor skills, sports skills are in accordance with the laws of both the skills of exercise behavior resources (sports and general rule) or to integrate control, including the goal, perception, action and practice of four basic elements. According to my point of view is: the essence of sports skills are the individuals or groups engaged in sports behavior potential and strengthen. If the motion behavior of the potential is congenital and hereditary, then repeat the exercise the day after tomorrow is the main part of. Congenital rules of athletic skills tend to be easier for people to observe and grasp, and the formation of motor skill is the cortical skills, is the interaction of neural network, endocrine and immune system, so the inner mechanism is more complex and huge, unpredictable, and often include explicit physical activity and the inherent thinking activities. To reveal the essence of sports skills, means that it also manifests the following main characteristics, both sports skills, specialized, procedure and practice characteristics.

SPORTS IN CHEMISTRY DEVELOPMENT

In order to promote the rapid development of China's competitive sports, Sports Bureau proposed to vigorously promote the scientific development of sports training, with the development of modern science and technology civilization, subject system of sports science is the continuous development and improvement, more profoundly reveals the nature and laws of sports training activities, more and more of the latest scientific and technological achievements applied to the practice of athletic training, emerging out of training methods and equipment for innovation, basic rules and methods of exploration and research development of physical fitness of athletes, the most effective mode of physical fitness of athletes, through decades of theoretical research and practical exploration, not only the formation of the theoretical system of physical training is complete. And the idea of physical training produced a huge update.

"The idea of training" is used more and more frequently in our training practice in recent years, has become an academic term. Ideas usually refer to the law of things development basic views and opinions. Western philosophy has a proverb image summary: "idea" like the compass, it guides the way

forward. A Lee J Dodd is great philosophers in ancient Greece have long proposed: the idea of "one one not action, but with the guiding thought to change the world". Understanding and study of the connotation of "concept" based on the idea of training is the training of rational knowledge of things, which is formed in the long-term exercise training practice, rational way to realize the training of competitive sports and exercise the intrinsic nature, and law of value and value, is established for the completion of the training objective and task of guiding ideology and basic concepts. Understanding of the training concept for hand is active thinking and regular exercise training and produce, on the other hand also originates from the thought collision and exchange with other fields. Through practice and learning exchanges, China's sports industry about fitness and physical training idea produced major change.

CONCLUSION

Exercise biochemistry is a young science in competitive sports and mass sports are very important. Gradually by coaches and masses to understand and accept, become the important theoretical basis for the scientific training and scientific training. From the interdisciplinary perspective on motor skill study field some questions can be seen: exercise physiology to conditioned reflex theory as the theoretical basis to explain the subject belonging of the movement skill formation; educational psychology in order to show results of motor skill performance or external to the assessment process of motor skill formation; formation of motor skill learning and the control principle of understanding skill from two aspects, one is based on the skill of their explicit feature, two is based on the level of performance levels of human action skills. The three subject Division has its limitations on the formation of motor skills, to a certain extent, weakened the guiding significance and application value of the theory to the practice.

Through the case study verifies the operability open physical training elective direction, in the higher education system in the professional fitness coach. Exploration of the training mode of college physical education to meet the need of society sports specialized talents, realize the organic connection between College Physical Education and social sports professional development needs of the standardization of the development to achieve the fitness coach education training and certification as soon as possible. At the same time also effectively extend the sports professional students employment range, enhance the comprehensive competitiveness of college sports majors.

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