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Research on the Structural Characteristics of Sports Skills Learning

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ABSTRACT. *This article uses literature research methods and logical analysis research methods, combined with related theories of sports skills learning, and the research has conducted an in-depth discussion on the structure of sports skills learning. It is found that sports skills learning includes both sports technology and sports skills. The goal structure of the goal element also includes the process structure of the three process elements of motivation, operation and knowledge. The close combination of the two reflects the essential characteristics of sports skills learning, that is, the teaching of learning sports technology and training sports ability as the core or training activities. Teachers or coaches are the leading players in sports skills learning, students are the main body in learning sports skills. Under the influence of relevant process elements, the main body's cognitive structure will continue to improve as the ability to apply learning strategies continues to improve, acquire the internalization and development of individual sports skills.*

KEYWORDS: *sports skills, organization, characteristics*

1. Introduction

Sports skills are the main content of physical education or training, an important means of inheriting sports culture, and a carrier for students to form athletic ability, healthy behavior and sports morality [1]. Through the learning of sports skills, students can form a positive experience of physical exercises, improve their cognitive level of sports learning, master the corresponding sports knowledge, skills and methods, cultivate personality qualities and adaptability, and form the core literacy of sports disciplines. In the implementation of physical education or sports training, whether under the original standards or under the new standards, sports skill learning has always been the backbone of physical education or sports training. Students will naturally develop interest and hobbies in a certain sport during the learning process of sports skills. After the gradually master one or several motor skills, their physical and mental health will be further enhanced, and ultimately for life physical exercise lays the foundation. Therefore, in order to ensure the effect of sports skills learning and improve the quality of sports skills learning, it is urgent to

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in-depth explore the structure and essential characteristics of sports skills learning, and further understand the entire sports skills learning process.

2. Related theories of sports skills learning

2.1 Stimulus response theory

The basis of stimulus response theory is Pavlov's conditioned reflex theory. This theory is based on the knowledge system of physiology. It simply understands the learning of sports skills as a passive learning process and emphasizes the learner's response to a certain stimulus. Predictive actions and responses made, the entire sports skills learning process can be understood as the four stages of generalization, differentiation, consolidation and improvement, and automation. The different physiological mechanisms are awakening the cerebral cortex → excitement spreads in the cortex, poor differentiation inhibition → excitement inhibition is gradually concentrated in the cortex. Differentiation inhibition is gradually perfected → excitation inhibition is highly concentrated in the cortex, and internal inhibition is highly developed. After these four stages, after learning with compulsive control, learners will acquire certain sports skills [2].

2.2 Cognitive learning theory

Cognitive learning theory is different from previous studies. It is based on the knowledge system of psychology, understands the learning of sports skills as an active learning process, emphasizes the learner's dominant position, and focuses on strengthening the learner's coding and integration capabilities cultivation. For example, the production system theory (ACT model) of the cognitive psychology school believes that human knowledge is divided into two categories: one is declarative knowledge, which is represented in the form of propositions or mental representations; the other is procedural knowledge, it uses conditional actions to characterize knowledge. Anderson (1982) uses this as a basis to identify the learning process of sports skills as a conversion process from declarative knowledge control to procedural knowledge control. Logan (1988) also believes that it is necessary to emphasize the representation of the basic training experience of a certain sports skills, and that the individual's accumulated event memory plays an important role in the formation and automation of sports skills [3]. Of course, there are seven stages of Washburne (1934), namely, orientation, exploration, careful consideration, integration, simplification, automation, and redirection. Professor Ma Qiwei and Zhang Liwei (1996)'s three-stage theory, namely the action recognition stage, the action connection stage, and the action perfection stage [4]. After these stages, some sports skills information can be input, coded, stored and extracted, and the learner's sports behavior is also becoming more and more perfect, and will eventually reach a higher level of sports skills.

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2.3 Theory of physical education teaching and training

The theory of physical education and training is based on the knowledge system of pedagogy, and understands the learning of sports skills as a teaching or training process. For example, Koryaksovsky mentioned in his "Sports Theory": "The purpose of the teaching or training process is to arm students with systematic scientific knowledge, sports skills, and to develop their physical fitness and ability, and cultivate behaviors that conform to the principles of communism." "During the teaching or training of sports skills and techniques, various physical fitness, will and personality can be implemented in a planned way." Published in China in 1963 "The Theory of Physical Education" also further summarized: "The process of physical education or training is a process of understanding from unknown to fully known, from incomplete to fully known, and it is also a process of developing the body, mastering and improving sports techniques. In this way, fully consider the overall impact of physical education or training process components such as subjective elements, conditional elements, process factors, etc. on sports skills learning, with special emphasis on the dual-subject status of teachers or coaches and students, focusing on the systematic cultivation of learners' learning capabilities after learning through this system, the learner's sports skills will reach a higher level [5].

3. Structural elements of sports skills learning

3.1 Process elements

The structure of anything is composed of certain structural elements, and the occurrence of everything is determined by certain structural elements. Therefore, elements are the basis for judging a system or measuring a process of occurrence. Cratty (1996) proposed a three-level skill learning theoretical model based on hypothetical factors affecting learning and operation. The main feature of the model is to divide the factors of skill learning into the following three levels: One is to influence the general factors of skill operation, including the level of aspiration, the persistence of completing the task and the ability to analyze the task structure; the other is to influence the successful completion the ability characteristics of motor operation, including limb strength, arm and leg speed and flexibility, etc.; the third is the factors related to the skill operation task, such as practice conditions, past experience, and specific action patterns required by the operation task [6]. Li Jiekai (2000) regards the acquisition process of human motor skills as a cognitive and evolutionary system with the characteristics of "self-expression" based on the relevant theories of the general theory of evolution. Moreover, based on this theory, human consciousness and actions at the stage of conscious control, emotions and perceptions that have a directional effect on cognitive activities are designated as soft structures, and the acquisition of sports skills recognizes the physical quality of the subject, the already possessed sports knowledge and ability, and the mastery of automation proficiency controlled by unconscious functions are defined as hard structures. The function of the soft structure is to generate active mutation to

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construct the hard structure, and the hard structure is to support the soft structure. After analyzing the interaction of soft and hard structures, a structural model of the cognitive system of individual sports skills is proposed [7]. From a practical point of view, Yang Xirang (2004) introduced the learning procedures of sports skills in more detail, systematically summarizing sports skills learning and setting goals, individual characteristics, age and gender, learning motivation, sports transfer, physical fitness, skill assessment, environment factors, teaching methods, rewards and punishments are related [8].

It can be said that there are many elements that affect the learning of sports skills and show different characteristics. According to the related theories analyzed above, the process of sports skills learning process involves not only the psychological factors emphasized by the cognitive learning theory, but also the pedagogical elements emphasized by the theory of physical education and training. However, these elements will be in the process of sports skills learning. Because of its concomitant occurrence, it can be collectively referred to as procedural elements, but the former focuses more on the individual psychological activities that appear in the learning process, while the latter focuses more on the unity of individual psychological activities with other elements.

3.2 Target elements

If process elements determine the quality of a system or a process, then the existence of target elements determines the direction of a system or process. It can be said that no matter which theory is involved in the process of sports skills learning, the ultimate goal is to acquire certain sports skills, or to improve the original level of sports skills, which should be the core of sports skills learning. Then, what are the established target elements that need to be achieved, or which target elements can represent the acquisition and improvement of sports skills, this needs further discussion.

At present, the generally agreed view is that sports technology is the first target element of sports skills, and it is the specific representation of sports skills. Such as basketball technology, football technology, volleyball technology and so on involving some special sports. Of course, there are some rehabilitation and health care technology, sports management technology and so on used for fitness guidance. It can be said that technology is the sum of various means, methods and methods created or invented by human beings based on practical experience or scientific principles in order to meet their own needs. It includes not only certain technological activities, but also certain technological theories, technological processes and technological products. Sports technology is the unique technical product, technical process and technical theory in the field of sports. Although it cannot directly create use value for society like some other projects, materials and computer technology, it does have important social significance and scientific research value. At present, there are several opinions at home and abroad: First, sports technology is a special technology created by human beings, which is beneficial to people to obtain excellent sports performance and the best fitness effect. The second is that sports

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technology is a general term for reasonable and effective special movements that can give full play to the athlete's physical ability. The third is that sports technology refers to the method of completing specific sports activities. It is an important determinant of athletes' competitive ability. It is the most economical sports process and objective approach to achieve goals.

It can be seen from the above expression that sports technology exists objectively, a collection of specialized actions, and does not have personal characteristics until it is not learned by others. Sports skills are not the same, they are a collection of people's cognitive activities and sports activities. They are individualized and automated behaviors that people have mastered after learning, reflecting individual characteristics. From the perspective of learning and mastering, in the process of learning sports skills, the implementation and execution of sports technology learning are always in the four stages of generalization, differentiation, consolidation and improvement, and automation, but the mastery of sports skills only starts at the third stage appear. Therefore, the formation of sports skills begins with the learning of sports technology, and with sports technology as the scale, new behaviors and habits are formed through corresponding transformation, standardization, and construction. It can be said that sports technology is the obvious feature of sports skills, which reflects the generality of sports skills extension.

In addition, the second target element of sports skills learning is sports ability. Athletic ability refers to an individual's general, exercise-related abilities. It is an important factor that must play a role in various forms of sports. It is mainly composed of four levels: basic physical fitness, basic activity ability, basic athletic ability and complex athletic ability. Basic physical fitness refers to the functional quality of physiological organs affected by innate genetics, such as individual aerobic capacity, anaerobic capacity, and strength qualities such as speed, agility and flexibility are the preconditions that restrict the development of athletic ability [9]. Basic activity ability is manifested as the instinctive activity ability of individuals in daily life, labor and national defense construction needs. It gradually develops with the growth and development of the human body, is a manifestation of basic qualities, and is the foundation of athletic ability. Basic sports abilities include walking, running, jumping, throwing, climbing, draping and balance, etc. It is the basic sports ability gradually acquired through learning and exercise. The development, change, transformation and formation of various sports skills are based on these the basic activity form is based, therefore, it is the core level of athletic ability. Complex sports abilities are further deepened and developed under the active control of individual psychological characteristics (the acuity of proprioceptors, the breadth and depth of sports perception, the completeness and clarity of sports imagery, the agility of operational thinking, the timely and correctness of sports memory, etc.) the original basic athletic ability, the athletic ability to complete a series of complex athletic skills [10].

It can be said that sports ability is the internal scale that characterizes the effect of sports skills learning. The goal of sports skills learning is to improve students' basic physical fitness, improve their basic mobility and athletic ability, and ultimately acquire a series of complex sports skills. With the improvement of sports

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ability, another target element of sports skills learning will also continue to improve, and ultimately complement each other to reach the highest level of sports skills learning.

4. Structural characteristics of sports skills learning

4.1 Process structure of sports skills learning

Based on the previous analysis of the process elements, considering the unification of these characteristics, the study constructed a process structure for sports skills learning. In the process of sports skills learning, students are the main body of sports skills learning, and teachers or coaches are the leading players in sports skills learning. Students' sports ability and learning strategy application ability are the source of motivation for their sports skills acquisition. Students with strong sports skills perform have a higher learning motivation, aim to master more complex sports techniques, and actively engage in training. Students with strong ability to apply learning strategies also show a strong sense of self-confidence and self-efficacy, and a high desire for knowledge of complex exercise techniques, which leads to a high degree of participation. The operating elements that make up the learning of sports skills are similar to the elements of physical education or sports training, but the difference is that the learning process of sports skills in a macro sense should be a teaching or training activity with learning sports technology as the core, the setting of teaching or training goals, the application of teaching or training methods and methods, and the organization of teaching or training must be effectively carried out around the purpose of "how students master higher sports skills". Knowledge elements are the theoretical part of sports skills learning and the basis for individuals to practice sports. It includes sports technical theories for different sports, a series of sports rules, and a summary of sports experience.

4.2 The essential characteristics of sports skills learning

The structure of sports skills learning reflects its inherent essential characteristics. Based on the analysis and summary of the general structure and target structure of sports skills learning, the basic feature of sports skills learning is to learn sports skills and cultivate sports skills as the core teaching or training activities. Teachers or coaches are the leaders in sports skills learning. It is the subject of learning sports skills. Under the influence of relevant process elements, the cognitive structure of the subject will continue to improve, thereby obtaining the internalization and development of individual sports skills. But if that's all, then such features are incomplete, at most they are only repetitions and generalizations of physical education or sports training theories at the macro level. It is also necessary to pay attention to the self-learning and cognition of the students at the micro level. It can be said to be an embodiment and reflection of stimulus response theory and cognitive learning theory at the micro level. Therefore, at the micro level, sports skills learning should also show the continuity of the temporal and spatial

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characteristics of sports skills learning at the macro level. This continuity is often closely related to the student's ability to apply learning strategies. It has been initially established in the teaching or training activities of the subject. It is a conscious activity process of the subject. The subject can enhance the application of this ability through continuous self-learning and practice. Finally, it can effectively help the subject quickly establish a complete movement concept and sports skills, the close integration of macro and micro forms a closed-loop sports skills learning process.

5 .Conclusion

The learning process of sports skills is different from the traditional understanding. It is not only the formation process of sports skills explained by physiology or psychology, but also the teaching process of sports skills. After all, most of the learning activities of sports skills occur or develop in natural situations and have a higher ecological significance. The former is only an ideal state in an experimental situation, so the former can only be used as a powerful supplement to the latter. That is to say, the essential feature of sports skills learning should be teaching or training activities that focus on learning sports skills and cultivating sports skills. Teachers or coaches are the leading players in sports skills learning, and students are the main body in learning sports skills. Under the influence, the subject's cognitive structure will continue to improve with the continuous improvement of the ability to apply learning strategies, so as to obtain the internalization and development of individual sports skills.

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