# Research on the application of functional physical training in college physical education

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**Abstract:** Based on the characteristics of college physical education and the structure and function of functional physical training, this paper analyzes the role of functional physical training in college physical education, and puts forward feasible application countermeasures. It provides useful suggestions for the application of functional physical training in college physical education.

# 1. Introduction

With the development of the times, the importance of physical education in colleges and universities is increasingly valued and highlighted. Strengthening physical training for students not only meets the basic requirements of teaching, but also contributes to the overall development of college students' physical quality. Functional physical training, as one of the outstanding representatives, originated from the field of physical therapy and rehabilitation. Introducing it into college physical education can effectively improve the disadvantages of traditional physical education and help college students improve their physical health. In order to give better play to the advantages and effectiveness of functional physical training, it is necessary to clarify the connotation of functional physical training on the basis of clarifying its structural functions and attributes, and pay attention to the integration and integration with the physical education content in colleges and universities, so as to avoid the risk of sports injury, and to improve students' physical quality and ability.

# 2. Characteristics of Physical Education Teaching in Colleges and Universities

# 2.1 The teaching objectives are consistent with the training of professional talents

The physical education teaching in colleges and universities should be matched with the training of professional talents. According to the characteristics of different majors and based on the characteristics of professional needs, corresponding training models and training programs should be adopted to improve the comprehensive quality of students, so that students can reserve special physical fitness and build self-confidence in advance.

# 2.2 Mainly practical and operational

Whether it is to engage in mental and intelligent work in the future, or to enter the ranks of physical exercises, graduates need to have good physical and mental quality to guarantee. In order to enable students to maintain rapid adaptability in their future work and effectively cope with different work intensities or pressures, physical education in colleges and universities should focus on practicality and operability, and avoid students' physical disadvantages in their work by setting reasonable curriculum types and physical training models, with a view to maximizing their professional characteristics and business potential.

# 2.3 Have diversity and pertinence

With the increase in the number of college students and the increase in the proportion of personalized needs of contemporary college students, how to make students truly succeed in

physical education teaching, first of all, we need to pay attention to the development of hobbies and independent focus. Therefore, physical education teaching in colleges and universities should fully consider the physical and mental characteristics of students and the characteristics of future labor needs, so as to strengthen the diversity and pertinence of physical education courses, pay attention to keeping pace with the actual operation of the profession in the future, implement a focused training mechanism, and strive to lay a solid comprehensive physical quality for students.

#### 2.4 Penetration of preventive functions

In addition to teaching students basic sports skills, rules and methods to have healthy physique, physical education teaching in colleges and universities should also enable students to improve their awareness of health and master the principles of scientific fitness and the rules of sports events. Of course, all sports participation and investment will be restricted by subjective or objective factors, resulting in different degrees of sports injury. Therefore, in the process of physical education teaching, it is necessary to introduce relevant prevention knowledge in a targeted way, so that students can learn the basic theory of self-protection and self-recovery, so that students can minimize the problems caused by sports injuries and diseases in the process of self-exercise, and more enjoy the fun and harvest brought by sports.

#### 3. Structure and function of functional physical training

#### 3.1 Function demand and function satisfaction analysis

The proposal of functional training not only has a clear goal orientation, but also has an expected functional appeal that cannot be ignored. From the perspective of the connotation of functional physical training, physical training is not a general arrangement of training activities, but to meet or adapt to a specific goal, so as to develop corresponding training methods and training arrangements. On the one hand, the thinking of functional physical training should keep pace with the functional demands of training, and achieve the goal of training ability integration function according to the students' body shape and physical function characteristics. At the same time, science dialectics the logic between "training" and "function". Timely rely on physical fitness diagnosis to optimize the process of physical fitness training in order to provide material basic conditions for security. On the other hand, from the perspective of system structure determining system function, the training of improving sports quality can not be separated from the control of the nervous system, and then through the energy supply as the driving force, the refined control of different links can be achieved until the expected functional demands are met. In addition, functional training means and training plans also need to be updated and improved with the times. Relying on the integration effect of serving the sports quality, aiming at new physical problems or functional demands, the core advantages of functional physical training should be maximized.

#### 3.2 Analysis of structure, function and logical relationship

In order to ensure that functional physical training is directed more clearly and specifically, it is required that in the process of functional design, the function can be displayed and released according to physical quality, physical function and sports quality. First of all, based on the dimension of sports anatomy and combined with the theory of kinematics, logical analysis is carried out to produce mutually reinforcing and conditional effects, with a view to improving the physical quality and overall physical fitness level of college students. Secondly, in order to satisfy the functional physical training, it is necessary to correctly analyze the body shape of the sports anatomy dimension, and follow the material basis function to produce a linkage effect. As ATP is the direct source of energy supply, the intensity and quality of physical training should be further improved by feedback. On the premise of the structure and function of physiological and biochemical dimensions, combined with the change from displacement and level, according to the sequential arrangement of the model, the coordination of muscle recruitment and stretch control should be done well, in order to produce the effect of fine control. In addition, the macro design of

physical training should also meet the structural function and logical relationship, thus serving the system structure and function. Do a good job of integrated design from the macro and micro perspectives, so as to strengthen the adaptation of students' physical functions, facilitate the integration and improvement of sports quality, and achieve the functional demands of physical training.

# 4. Analysis on the function and feasibility of functional physical training in college physical education

# 4.1 Promote the comprehensive and coordinated development of college students' physical quality

Based on the physical and physiological function structure of college students, the development of physical quality is at the golden stage. At this time, scientific training mode will have obvious effects and influence on the optimization of college students' physical function. In the new era, college students have a strong basic understanding of physical training, and have a good guarantee support in terms of physical and mental basis. Facing the sensitive needs of college students for physical training in this period, it also laid a solid foundation and guarantee for functional physical training. At the same time, the physical education workers in colleges and universities have deep knowledge and culture, have a deep understanding of multi-functional physical training, and are willing to carry out diversified attempts and practices, which is very beneficial to the reform of physical education in colleges and universities. In the process of extensive trial and research, scientific and effective training has been carried out and has achieved phased results. Because multi-functional physical fitness training focuses on the development of flexibility, flexibility, speed and balance quality of college students, combining with the goal orientation of college physical education, by formulating different physical fitness training programs, it will not only produce twice the result with half the effort, but also help promote the comprehensive and coordinated development of college students' physical fitness. In addition, according to the differentiated physical quality of college students, functional physical training is adopted, which can make up for the shortcomings left by previous teaching, create more interesting physical training content for students, and carry out scientific and effective training on the basis of complying with the laws of college students' physical development, and improve the quality of college students' small muscle groups by using stretching modes such as cross-legged walking and back bending knees and legs, And then enhance the stability and durability of motor function.

# 4.2 Lay the foundation for lifelong physical education

Lifelong sports, as an effective way of support for college students to continuously improve their physical quality, has attracted more and more attention from college teachers, students and society. The introduction of functional physical training, which is mainly based on technology and plays its coordinating role, can greatly stimulate the learning interest of college students, improve the proficiency of knowledge and skills, form a good human body movement chain, generate obvious sense of movement, show flexible and fast movements, and enhance the competitiveness and accuracy of technical movements, which has laid a solid foundation for lifelong sports development. If we continue to use the traditional training method, students will have different degrees of resistance, which is not conducive to the improvement of lifelong sports quality and awareness in the long run. At present, the main methods of functional physical fitness training are mostly through simple bare-handed training, single equipment sports training, comprehensive new training or specific equipment, which is very consistent with the training psychology of college students in pursuit of novelty, and greatly enhances the systematic and coherent training, which can improve physical fitness and physique in a targeted way, and help to comprehensively improve the students' ability of movement control and the level of healthy physique, Help improve sub-healthy physique.

#### 4.3 Enhance college students' social adaptability

As a relatively popular emerging physical training mode, functional physical training focuses on the guidance of different professional contents of students. For example, some majors require practitioners to have good endurance and balance literacy. In physical education teaching, they can focus on training content such as dumbbell exercises, left and right foot exchange jumps. Another example is that some majors require practitioners to have the ability of limb coordination, accuracy and sensitivity. At this time, functional physical fitness training should focus on the goal of heavy object throwing and the 30-meter acceleration run, so that students can reserve the physical fitness required for employment in advance, so as to enhance the social adaptability of college students. In addition, functional physical training can also improve students' interpersonal communication and normative awareness. Through the presentation of scientific training programs, the college students' sports system and nervous system can be fully experienced, the memory function of standardized actions can be strengthened, the flexibility and continuity of the body can be enhanced, and the injury of college students in sports can be reduced or even eliminated.

### 5. Application principles of functional physical training

#### 5.1 Highly feasible

Whether it is the innovation of existing functional physical training or the exploration of the essence of physical training, it is necessary to design the corresponding training content, standards and evaluation system based on the actual learning situation and the needs of students of different majors in the future. Only by operating and managing according to the scientific process, and improving and updating the training activities in time, can the expected training objectives be achieved. As one of the first principles of functional physical training, high feasibility needs to be paid close attention by teachers and students. Based on the physical quality of students, combined with the teaching ability of teachers and the guarantee of sports facilities, develop functional physical training plans and programs in line with the actual situation of the school according to local conditions.

#### 5.2 Highly reasonable

The most important thing in training is functionality. College students are in the golden age of physical training. At this time, although their minds are not fully mature, they have a strong understanding of learning goals and life planning. At this time, physical education in colleges and universities should closely grasp this situation, and must maintain a high degree of rationality and matching in the process of implementing functional physical training. On the one hand, according to the method of teaching students according to their aptitude, we are committed to tapping the development potential of students and achieving effective improvement of physical quality. On the other hand, functional training emphasizes the quality of movement, and the setting of curriculum content needs to be based on the basic structure of the human body and the function of movement, and adopt diversified teaching methods such as hierarchical teaching. Through three levels of training steps, namely basic functional training, general functional training and functional specialized training, a standardized functional training layout can be formed to avoid the injury of students caused by excessive training intensity, and more effective exercise can be obtained, which is closer to the best expected level, and improve the working function of the body movement system.

### 5.3 High moderation

If you want to achieve the goal of strengthening your body, you need to highlight moderation everywhere in the training process. First of all, functional physical training cannot be separated from the guarantee of inherent strength, but the strength needs to be moderate, close to the actual level and needs of students, and properly control the exercise intensity, which can help to form a good human sports chain, and the key is to avoid physical damage caused by excessive training. Secondly, the content of physical training is very rich. Stretching and muscle relaxation are also important components of functional physical training. Therefore, it is necessary to combine work and rest and supplement nutrition in time during the training process, so as to achieve twice the result with half the effort. Finally, the highly moderate training principle also needs to be able to further improve physical education teaching. Based on the three dimensions corresponding to the three major functional demands, we should adopt and implement more suitable training methods for the tester, and combine the training of deep muscle groups, training balance, simple physical training and integrated training mode to train the body more targeted.

# 6. Deep thinking on the application of functional physical training in college physical education

#### 6.1 Suggestions for basic functional training

In college physical education, the application of functional physical training needs to pay attention to long-term benefits, adhere to integrated training and comprehensive training, and can never be achieved overnight. On the one hand, due to the influence of different chemical conditions, many college students have great differences in such comprehensive qualities as sensitivity and flexibility. Therefore, in the process of training, we should start from the actual learning conditions, respect the main position of students, and optimize the specialized structure. On the other hand, based on the transfer principle of various physical qualities, the training of functional special training and optimization of special action mode should give college students enough humanistic care, provide scientific teaching and training concepts, and skillfully integrate them into the physical education classes of colleges and universities, implement them in a planned and targeted way, fully mobilize the subjective initiative of students, emphasize the standardization of subjects' actions, and consolidate technical training relying on special standardization, The formation of a benign learning atmosphere has also strengthened the physique and health.

#### 6.2 Pay attention to the reasonable arrangement of training content

Whether it is in the pre-preparation period of functional physical training, or in the specific practical application or relaxation stage, it is necessary to strive to ensure the reasonable arrangement of training content. On the one hand, guided by the improvement of the physical quality of the body, from single action to compound action, the implementation should be carried out in accordance with the principle of gradual progress, so as to prepare for intense exercise, so as to thicken the heart wall and increase the blood volume of college students. On the other hand, in combination with the characteristics of students' physical and mental development, during the routine physical training, the warm-up activation exercise, the subjective function training and the finishing part are mainly adopted, and the load intensity of the exercise is controlled in real time, focusing on the students' muscle stretch, the ability of inter-muscle cooperation, endurance training, strength training, the stretch of the posterior thigh muscle group and the stretch around the hip joint. The project mainly focuses on sitting forward, standing long jump, 50-meter run and pull-up to form personalized training content and effectively reduce the occurrence of training accidents.

# 6.3 Pay attention to the overall system of training

Functional physical training needs to be sustained for a long time to achieve its effectiveness, and once the advantage effect is highlighted, it will produce a continuous stream of effectiveness. The flexibility quality has certain plasticity, and its value is reflected in many aspects. Based on this, in college physical education teaching activities, we need to focus on the control of details, integrate the "fast stretching strength" training, apply the "nerve activation" technology, strengthen the trunk pillar strength training, and ensure that each link has its value. In addition, in the basic functional training, it is suggested to carry out targeted explanations for students, pay attention to the integrity of training, grasp the contents of each training link, activate the excitement of students' nervous system, effectively play a good training effect, and improve students' physical ability.

# 7. Conclusion

In short, integrating functional physical training into college physical education and teaching courses not only conforms to the trend of the times, but also has strong feasibility and operability, which helps college students achieve the goal of physical fitness. Therefore, in the current stage of education management, functional training should be scientifically and reasonably arranged so that students can master standardized technical actions, in order to maximize the self-confidence of autonomous learning of motor skills, and thus develop the spirit of challenging themselves.

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