

How to Improve Students' Short Stride Training in Teaching

Tao Li^{1, a*}, Bingyan Lu^{2, b}

¹Automobile NCO Academy, Army Military Transportation University, 233011, Bengbu, Anhui

²Automobile NCO Academy, Army Military Transportation University, 233011, Bengbu, Anhui

^a306818032@qq.com, ^b2621602994@qq.com

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Abstract: Track and field is the basis of sports, sprint is the main basis of track and field. Students' poor sprinting ability will directly affect the improvement of performance in other sports. Therefore, paying attention to the sprinting training of students is of great importance to the improvement of the results of other sports, and it is an urgent matter of the moment for sports training.

Problems of Sprinting in Teaching and Training

First of all, the basic sports skills and skills training is not paid enough attention to in physical education training. The training of improving stride running ability on the basis of developing stride frequency was neglected. Secondly, the methods and means used in teaching and training cannot be fully integrated into the movement technique, and the training of physical quality cannot be fully developed and improved. There is not enough training to improve the running ability of stride. Thirdly, there is no strict implementation of scientific training principles and systems in teaching and training. Students adopt the method of attack training. This kind of attack training method can improve their performance faster, and the space for improvement is narrow[1]. According to the 2017 test of 236 students whose performance in the assessment of reaching the target ranged from 12"00 to 14"90, the whole course stride frequency ranged from 5.96 steps/SEC to 7.21 steps/SEC, and the 2019 test of 367 students whose performance in the assessment of reaching the target ranged from 11"60 to 15"00, the whole course stride frequency ranged from 5.66 steps/SEC to 7.51 steps/SEC. This fully shows that the neuromuscular rapid contraction ability of most students is relatively strong. Although there is a height difference, the average stride length of most students is 1.79 m ~ 1.86 m/step.

According to the high flexibility of the neural process and the dominance of the excitatory process, it is advantageous to develop the cadets' stride frequency, especially in the beginning stage. However, with the growth of age, height and strength changes, must be focused on the development of students step size.

Main Reasons for Existing Problems

Firstly, the significance of increasing stride length is not clear enough .and the relationship between stride frequency and step length is not well dealt with[2]. Secondly, training methods and means are relatively monotonous. Not enough attention is paid to the training of developing students' sensitivity, coordination and flexibility of each joint. Unstretching, especially the inability to open the hip and lift the thigh, directly affects the open stride. Thirdly, the special ability (speed training, speed endurance training, explosive strength training and flexibility training) is poor in quality, and the psychological training, technical training and endurance ability are low.

In addition, in terms of technical guidance, too much attention is paid to the phenomenon of high frequency rhythm running, and not enough attention is paid to the training of long and fast running and fast backpedal running ability.

Important measure to strengthen sprint training in physical education training

Firstly, from the analysis of the technical pictures of some excellent sprinters at home and abroad, the sprinting technology is highlighted on the basis of high stride frequency. Rely on great strides to get good results. Emphasize the movement amplitude of running, swing leg active forward swing and active landing, coordination between upper and lower limbs, the whole movement is relaxed, the back course can also maintain the correct technology of fast relaxed run, the movement is not out of shape. Secondly, make use of students' physiological characteristics to improve the key points of movements. Due to the imbalance between the development of students' sports organs and internal organs, there are differences in the development of technology and quality. However, young students' ability to accept new things is strong and fast, so they should make use of this favorable factor and teach under the guidance of correct key points of movements, so as to improve and consolidate the sports skills they have established and form the correct power shaping. Third, play the role of the second signal system. In the process of teaching and training, teachers use language tips and rhythm signals of language to make students consciously adjust the force of muscles and range of motion of joints, and realize the exchange frequency of legs and the size of stride in the process of running. There is also to improve the quality of the content of specialized exercises. At present, in the teaching and training of sprinting, the range of movement is not paid enough attention to and the quality is not high, so that the range of movement in the process of running is small, and the content of special training cannot be effectively applied to the whole running technique. Therefore, we should not regard the special practice of running as just to make the body move, but as a means to improve the development of the special quality of the key points of the movements.

Sprint Improvement Measures in Sports Teaching and Training

From the rhythm of running more than fast frequency to the high pace, stride, natural and smooth, the center of gravity fluctuation is small, upper and lower limbs coordination, there is a clear sense of rhythm direction development, more in line with the principles of biomechanics and anatomy of sports, so that the sprint technology shows efficiency and economy.

Identify the importance of big strides in sprints. Firstly, from the analysis of the technical pictures of some excellent sprinters at home and abroad, the sprinting technology shows that on the basis of the high stride frequency, it can achieve excellent results by relying on the stride length. The second is to use the physiological characteristics of students to improve the key points of movements. The young students' ability to accept new things is strong and fast, so they should make use of this favorable factor and teach under the guidance of correct key points of movements, so as to improve and consolidate the sports skills they have established and form the correct power shaping. Once again, the second signal system is given play to the role of the teacher. In the process of teaching and training, the teacher USES the language hint and the rhythm signal of the language to make the students consciously adjust the force of the muscle and the range of motion of the joint, so as to realize the exchange frequency of the legs and the size of the stride in the process of running.

Master the key points of correct movements. The first is to strengthen the training of lower limb strength, which is the basis of stride length. In order to improve the sprinting skills of students as soon as possible, it is necessary to strengthen the muscle strength of lower limb on the basis of maintaining cadets' stride frequency, especially the training of breaking out strength of leg extensor groups, so as to increase the step length accordingly. High leg training: high leg run, support high leg run, high leg run in progress. Requirements: support leg heel lift, thigh press when the knee relaxed. The rubber belt pulls the leg up. Requirement: lift ham to exceed horizontal plane high, action by slow to fast, by fast to slow, do 30 ~ 50 pair of a group commonly, can do 3 ~ 5 groups. Develop backpedal strength: running with heavy weights, lunging with heavy weights, cushioning with heavy weights. Requirements: suitable weight, appropriate for people, positive hip. Various jumping exercises with or without weights. Requirements: the above exercises must be done with the ball of the foot landing, pay attention to the correct position and Angle of the landing, in line with the technical essentials of sprint. Develop the strength of the back muscle groups of the thighs: prone rubber folded calf, rubber straight leg back swing. Requirements: straight leg amplitude

larger after the pendulum, straight leg amplitude smaller before the pendulum. Negative sand pillow leg alternately stretch and jump. Requirements: step on the jump box with one knee bent (slightly higher than the knee), push up and jump, alternating with one or both legs. Develop joint flexibility, hip ligaments, and muscle extension. Back and forth, side to side, side to side kick, load or not load around the bar, "sit bar" exercise and hurdle exercise. Run uphill. Develop leg strength and increase stride length, run uphill to practice leg strength, run downhill to practice super speed and stride length, improve sprint speed. Requirements: group exercise, each group rest 3 ~ 4 minutes, length 40 meters or so, the steeper the slope, the shorter the distance. Secondly, practice the correct swing arm movement technique. Sprinting requires a more prominent swing technique, emphasizing the use of swing to push the pedal and the combination of swing and pedal. According to a new study, elite athletes spend only 22% of their time supporting one leg and 78% of their time swinging, compared to 1:3.5. Therefore, the importance of swing technique should be highlighted in the new sprinting technical concept, the research on swing movement should be strengthened in the training structure, the rule of swing technique and the characteristics of biomechanics should be mastered, and the biomechanical basis should be provided for the correct understanding of swing technique and swing arm technique. The correct action essentials of swinging arm are: the Angle between the big and small arms is about 60 degrees when swinging forward, and the Angle between the big and small arms is about 90 degrees when swinging vertically. Swing arms to be active and powerful, coordinated and relaxed, with the shoulder as the axis, bending arms natural and relaxed back and forth swing. Swing arm exercises generally start to do freehand, through the teacher's applause or other signals to implement, the movement from slow to fast, each group is about 30 ~ 40 times or so, forming a correct swing arm posture. To make swing arm is active and powerful, can do the exercise that a few increase arm, shoulder belt strength, if: the grab of light barbell is lifted, still can use the swing arm that holds dumbbell to practice at the same time, number is appropriate because of the person according to actual situation. When having a few above exercises, the requirement moves amplitude is big, the speed can be decided according to the exercise content, after finishing the exercise, had better be able to combine the complete movement technical essentials that runs, undertake the training that accelerates run several times. Experience the role of practice content in the running process. The third is flexibility training. Flexibility training, improve the posterior thigh muscles glutes, namely, half tendons, the biceps femoris muscle in half and quadriceps muscle, thighs, adduction muscle stretching and flexibility, changed the flexibility of the muscle, ligament activity of viscosity and the resistance of the hip joint activities, increase the range of activities, so as to improve the complex step distance, the 100 m running number decrease on the way. Flexibility training means include hand support rib leg, hand support rib back and forth leg, hand support rib left and right leg, body forward bend, back support, front and back split, left and right split, forward kick, inside and outside swing. Finally, do a relaxation run. Run training, muscle relaxation to reduce resistance, effectively increase the initial length contraction before, to mobilize more muscle fibers to participate in the work, increase muscle strength, at the same time are the ligaments around the joints, muscle stretching was improved, reducing the ligament of viscosity resistance and joint activities, and make joint movement amplitude increases, increase the step length, thus increasing stride, reduce running on the way. Training methods include running across 50 meters of grid area, wave running 100 meters, inertia running, extended stride running and other exercises [3].

After training the trainees in recent years, the training content and means of improving stride length were emphatically adopted.

Questions to note when raising stride length

Dialectically deal with the relationship between stride frequency and stride length, if the step length can be increased without reducing the step frequency, and the step frequency can be improved without shortening the step length is the key to improve the sprint performance [4]. In teaching and training, specific measures should be taken according to the actual situation. Generally speaking, the step length within 1.90 meters is about 4-5 steps/second, and the step length should be developed first. Step frequency should be developed above 1.90 m. Of course, according to the

specific situation, each person's characteristics, purposefully due to the development of pace frequency and stride length. In the development of step length teaching and training stage, should not use stopwatch too much [5]. Because young students competitive nature, if time students will not be pay attention to the correct action techniques for running, straining action, should not be hard muscle group also participated in the contract, which is harmful to the early stages of development step, only the action technical essentials, complete and actions tend to be better at high degree of automation, the proper use of a stopwatch. Don't take part in too many competitions. In the early stage of teaching, students are generally not arranged to participate in the competition, the training requires students to run with about 80% intensity, not completely in a state of intense tension, which is very important to accelerate the formation of correct technical movements, to promote the growth of step length. Deal with the relationship between basic skills and special qualities. The development of step length focuses on the following problems: insufficient back pedal, low front swing, and not obvious hip movement [6]. Strengthen basic training. In the process of comprehensive physical training, the key points of movements are the center and the special strength is the basis. Special quality to power - based, static as a supplement, focus on the development of spring.

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