

# ***Countermeasure Analysis on Improving the Teaching Quality of the Physical Training Course in Civil Aviation Air Security Protection Major***

—Taking the Course Content of 3000 Meters Race as an Example

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**Abstract**—This paper analyzes the current situation of the physical training course in civil aviation air security protection major of civil aviation colleges, with the example of improving the performance of 3000 meters race, using literature data method, interview investigation method and logic analysis method. The results show that the use of a variety of teaching methods can effectively improve the teaching effectiveness and quality of the course. The analysis believes that the excellent examination results come from the combination of students' own efforts and scientific teaching methods. Therefore, it is recommended to use different training methods and means to effectively improve students' learning and training ability, allowing them to reserve sufficient physical power and acquire different skills for more competitiveness.

**Keywords**—physical training, teaching quality, countermeasure

## I. INTRODUCTION

"Security first" is the most important criterion for civil aviation practitioners, good security records are an important condition and foundation for the construction of strong civil aviation country and future development. Therefore the construction of aviation security officer team has its special and important significance in reality. From the professional ability level of civil aviation security officer, physical power is the basis and guarantee for an aviation security officer to be qualified for his security duties. As a major for civil aviation air security officer training, civil aviation security protection major includes physical training, free combat skills, handling of air defense security behaviors, cabin negotiation techniques and tactics, control and defense, aviation dangerous goods management, and air security protection laws. The major aims to cultivate high-quality civil aviation air defense talents not only with high political and ideological quality, solid professional knowledge and skills, but also having strong physical ability and practical skills, and good tenacity and discipline.

The aim of physical training course is to help civil aviation air security major students to build stamina, master physical training methods and know the significance of physical training. The course combines theory and training. After course, the trainees can improve their physical fitness and training methods on their own. This way helps to improve the physical fitness of students. The course not only plays an important role in the cultivation of students' professional ability and professionalism, but also is the basic guarantee of students' professional skills and sustainable development ability.

The paper takes the example of 3,000 meters race to illustrate how to effectively improve the teaching quality of physical training course, with literature data method, interview investigation method and logic analysis method. 3000 meters race, also known as respiratory circulatory endurance, is a middle-distance race which can evaluate the level of cardiopulmonary function. Also known as, from the perspective of fitness value, it can improve the function of breathing and circulatory system and improve health. From the comprehensive situation of the aviation security officer assessment project, it is the basic project of the main reserve physical energy, which can effectively control the body to complete the pull-ups, the parallel bar arm flexion and extension, 40 kg bench press, 2 minutes bent leg sit-ups, 2 minutes skipping, etc. From the perspective of professional value, it is conducive to maintaining long-term flight work ability, resisting flight fatigue, and fostering tenacious will quality. At the same time, in the event of unexpected situations, it can effectively control the body to complete various actions in the cabin and smoothly handle the hijacking etc..

## II. CURRENT SITUATION OF PHYSICAL TRAINING COURSE

According to "Aviation Security Officer Training Program" issued by the Civil Aviation Administration of China, there are 10 physical security assessment items for aviation security officer, including: pull-ups, parallel bars and arms, 40 kg bench presses, 2 minutes sit-ups, 2 minutes rope skipping, 3000

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meters race, 100 meters race, 5 x 10 meters shuttle run, standing broad jump and stand up and down for 2 minutes. [1] Accordingly, physical training course also carries out teaching and training in these 10 projects, and evaluates the training effect of the students comprehensively through the way of theoretical study, project training and assessment tracking. The course turns out well, with the pass rate of students reaching 90%. And there are also some problems when it comes to teaching effects and quality. We'll analyze it from two aspects: teacher and student.

From the student side:

First, weak physical fitness. Most students come from regular high school, who are weak on physical conditions, while some are students with PE specialty who have more advantages on physical conditions.

Second, lack of initiative and enthusiasm. Students don't have the initiative to practice because of their poor understanding of the importance and significance of the 3,000-meter race training, and even have negative emotions during regular training.

Third, inappropriate learning method. Students don't study after class, therefore don't have a good master of training methods.

Fourth, combined with the training situation of the course. The scores of the 3000-meter race are mainly concentrated on "good" and "qualified", and few of students' score is between "to be qualified" and "unqualified".

From the teacher side:

First, short time and heavy task. According to the regulations of the college talent program, the physical training course is divided into two semesters and 72 hours, 2 hours per week. Teachers need to improve students' physical power in limited time.

Second, simple teaching content. Teachers' teaching content is mainly to train repeatedly around the assessment project. Students are easy to get tired, especially the 3000 meters race.

Third, simple role of teacher. As traditional teaching mode, teacher still teaches and students still trains in physical training course. The teacher still plays the classroom director; student plays the actor and completes the teaching task by training according to the teacher's request.

### III. REFORM TEACHING METHODS, IMPROVE TEACHING QUALITY

#### A. Master training skills and improve training results

Physical training is essentially targeted training. It is a special training with the function of the body and the movement of the target, for students who have just participated in the training of 3,000 meters. First of all, it is necessary to master the skills of starting, running, running and cornering after starting; secondly, in normal training, students are allowed to complete training content at different distances, develop good exercise habits and correct exercise methods; After training for a period of time, mainly master its action essentials to improve performance. When starting, after hearing

the signal, the powerful leg slams forward and rushes forward quickly, the upper body is pressed forward, the legs are exchanged with each other, the running speed and stride are increased, and the speed is quickly turned into the acceleration running. When a distance is required to run, the swing arm should be natural, the movement should be coordinated, the ground should be strong, the front swing should be in place, the top should be tilted forward, the landing should be easy and natural and flexible; fourth, under the correct movement, grasp the rhythm of breathing. , that is, two steps, one step, two steps, one step or one step, one step and one call, and maintain a smooth and consistent movement rhythm. When running in a corner, the body center of gravity is tilted as far as possible to the inside when running, and the swing arm amplitude is small and large. . The legs are swayed and exchanged. Fifth, master the skills of running on the road, pay attention to easily avoid the students in front of the curve, should follow, and then enter the straight and then surpass and accelerate the speed to move forward, straight to the end.

The practicality of long-distance running technology is the key to the improvement of performance in the examination. It should take more time to consolidate the correct technical skills and persevere [2]. In training, it must be persistence, never stop, whether it is raining in the sky or the sky, it must be consistent.

#### B. Develop aerobic endurance and maintain training effect

3000-meter training often has a long training period, and long-distance running has a positive impact on the human respiratory system and cardiovascular system. Long-term adherence to the long-distance running exercise contributes to myocardial contraction, and the myocardial activity is greatly improved, thereby achieving a positive improvement in cardiac function. Therefore, the middle and long-distance running has an important role in preventing the occurrence of cardiovascular disease, and has a good fitness and disease prevention effect.

As a student who is about to fight at the front of the work and work, good physical quality is a necessary condition to ensure the quality of work, and developing long-distance running endurance training is an effective way to improve physical fitness. The training of aerobic endurance in the middle and long run is mainly based on long-term continuous running training with different strengths and different loads. In the middle and long run aerobic endurance training, the body's energy consumption is large, and the demand for oxygen will continue to increase. In order to get more oxygen, correct breathing methods play a crucial role. Mastering the best way to run and breathe will make the students' long-distance running better.

In the middle and long run aerobic endurance training, "polar" and sports abdominal pain often occur. In the process of training, the students are informed that this is a normal physiological phenomenon in training during aerobic endurance. They will not only damage the body, but will make the body more tough and healthy, and let the students learn to treat it rationally. When the "pole" appears, accept the "extreme" provocation, strengthen the breathing, stabilize the pace, and gradually transition. When there is abdominal pain in exercise, don't panic, hold the painful part by hand, slow down

the speed, take a deep breath, and gradually make the pain gradually disappear. As the number of exercises increases and the physical function increases, the occurrence of these two conditions will gradually decrease.

### C. Using the game form to create a training atmosphere

The 3000-meter training often has the characteristics of long training period. The training exercise lasts for a long time. It is a cyclical movement, especially for students who feel boring and physical fatigue. Then, how to turn the boring middle and long distance training into a happy training, you can combine the running and jumping sports with the game, set the "game running" mode to lead the students to practice, and let the students develop in relaxed and happy atmosphere training. For example, in the 3,000-meter training, the design competition relay game trains students. They can be divided into four groups according to the students' physical condition and gender, so that the running level of each group is the same, and then the first member of each group can run 400 meters or 800 meters on different runways. After the end of the first member, the second member of each group followed by the third member, in turn, relay race in the middle and long distance running. In the competition relay, students' sense of competition is mobilized. Design a competition relay game to put students in a state of excitement and joy. On the one hand, it can stimulate the enthusiasm of students in long-distance running practice; on the other hand, it improves the students' aerobic endurance level in middle and long-distance running, and their physical quality is greatly improved.

In addition, according to the terrain of the training ground, some sandbags, hurdles, car tires and other foreign objects can be used to create obstacles, organize students to carry out "obstacle running", and can also be combined with aviation security staff job skills requirements, such as air defense and other content setting special items. Endurance training increases the fun of the middle and long distance classes and motivates students to run a complete obstacle, thus improving their physical fitness.

### D. Guide students to relax and speed up functional recovery

The training of 3000 meters is prone to sports fatigue, and the recovery after training is important. Teachers should instruct students to take effective recovery measures to accelerate the recovery of physical functions, such as physics recovery. After each group of training, physical methods such as massage, physical therapy and stretching can effectively promote the recovery of body functions and relieve tension. Muscle, promote blood circulation, effectively remove lactic acid from the body, and achieve recovery in a short period of time [3]. At the same time, massage can effectively regulate the nervous system and promote it in a balanced state. In addition, during the training in the sports atmosphere, the lower limbs of the human body are subjected to relatively large loads, and the fatigue of the legs occurs earlier. Therefore, relaxation should be carried out in time. Allow the body to fully recover to prepare for the next stage of training. In addition, a scientific diet is needed to carry out targeted energy intake to help the body recover quickly. Finally, we should pay attention to the way of sleep recovery, develop good sleep habits, improve the

quality of sleep, and effectively achieve the recovery of the body, thus highlighting the effect of exercise training.

### E. Schools and enterprises are closely united to achieve effective docking

At present, most of the aviation security officers are from civil aviation colleges. It is especially important for students to study during their school years. Therefore, it is necessary to combine the aviation security officer position with the colleges and universities, and to set the course content of the aviation security professional students in school, strengthen the physical training of the aviation security professional students in the school, especially the physical training of the students during the school, and establish the system science. The curriculum plan effectively promotes students to develop good training habits and lays the foundation for future careers. Even the assessment content of the junior vocational qualification certificate is directly connected with the curriculum, so that students can obtain vocational qualification certificates through examination during the school, and improve the employability of professional positions.

## IV. CONCLUSION

In summary, the improvement exploration of teaching status and quality of the physical training course has a certain level of significance. The quality of teaching directly affects the professional ability level of civil aviation air security major students. The course teaching and training can help air security protection major master the scientific training methods and [1] vocational skills, enhancing their adaptability and competitiveness of professional positions. The civil aviation vocational college is a distinctive educational institution with characteristics of the civil aviation industry, and we can start from the aspects of course characteristics analysis and training target orientation to promote the teaching reform of the physical training course on selection and application of teaching content, methods and means. Adhere to the teaching concept of taking students as the main body, let students master the training content that is boring and difficult more easily through practical exercise and application. In the teaching process of this course, a variety of teaching methods are used to further cultivate and enhance students' comprehensive quality and ability, and to stimulate students' initiative and enthusiasm, which can effectively help improve the quality of course teaching and train qualified personnel for civil aviation security.

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