Research on the Influence of Orienteering Training on Military Topography Course in Military Academy

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Keywords: Orienteering, Military Topography, Teaching Training.

Abstract. Orienteering is a sport full of great interest, knowledge, competition and military significance. It is a movement that uses maps and compasses to navigate, involving recognizing maps and armed off-road. Therefore, it has a strong connection and consistency with the teaching content and objectives of military topography in our military academies.

1. Introduction

The sport of orienteering originated in Sweden in the nineteenth century, developed rapidly at the beginning of the twentieth century and quickly spread throughout the world. The earliest development of orienteering in our country was in Hong Kong and it was introduced to the mainland in 1983. With the development of the country in recent years, the popularity of orienteering has increased and it has gradually entered the campus and become well-known. It is also very suitable to be carried out in troops and military schools, because this sport can not only stimulate the enthusiasm of trainees for training, but also can be used as a supplement to training subjects such as military maps and armed cross-country. From participating in orienteering activities organized at home and abroad, it is found that the organic combination of competition activities and relevant military expertise can provide an excellent entry point for the teaching and training of military topography.

2. Current Situation of Military Topography Teaching

Orienteering has been developed in China for decades, and there are countless orienteering organizations across the country. Orienteering in Beijing has also been popularized to the elementary school level, and it has been valued by every university as an important sports event. Tracing back to its roots, orienteering originated in the military. It was originally a branch of military terrain applications and then developed from military activities into competitive events to be introduced to China, which is connected with military terrain. On the other hand, the development of our army's military topography is a different situation.

2.1. Teaching Force Weakened

Affected by comprehensive factors, the strength of military topography teaching is gradually weakening, especially the loss of teachers with years of teaching experience. This has resulted in more and more classes with worse and worse teaching effects.
2.2. Backward Conditions

The backwardness of conditional construction is not only reflected in a single institution or unit, but the backwardness of overall conditional construction. Take the topographic maps used by our military as an example, military topographic courses usually use 1:50000 scale topographic maps with a constant height of ten meters. The topographic maps measured in 1973 were all measured in strict accordance with this standard, with accurate contours and clear features. In recent decades, with changes in surveying and mapping methods, adjustments in military forces and changes in combat thinking, the topographic map surveyed in 2003 has a contour line of 20 meters. Moreover, the surface features are not displayed in detail and many are just rough representation. This shows that our army's emphasis on surveying and mapping has declined. Some work units are using photocopied topographic maps of poor quality and fuzzy graphics, which greatly affects the formation of the skills of the students in recognizing maps.

2.3. Insufficient Teaching Knowledge

Orienteering can also be understood as using the basic knowledge of military topography, relying on a map marked with several checkpoints and direction lines, choosing a route by yourself with the help of a compass and looking for each checkpoint in turn to pass a military sports item throughout the process. It itself is one of the teaching contents of military topography courses, being an important content of map recognition and map training. Therefore, many people in the military think that the military topography taught in the military is the formal and orthodox content and the local orienteering is just having fun with a thought that "you can get great results from any team in the military". Judging from the participation of various academies and troops in the competition over the years, the real situation is that most of the teams sent by the military academies were unable to achieve ideal results in the orienteering competitions organized by the local government. This reflects one problem that the average level of map recognition is insufficient and the level of orienteering in China is far behind that of developed countries in Europe and America, which means that our army has not yet reached the level that can meet actual combat requirements.

3. The Inspiration of Orienteering to the Teaching of Military Topography

Why is there such a big gap in the level of development in terms of understanding and using maps, at home and abroad, in and outside the military? By analyzing these gaps, we can learn the training methods of orienteering and apply them to military topography courses.

3.1. The Skill of Recognizing Images and Using Images is a Long-term Training Process

Many foreign players have been running orienteering as a hobby since childhood. Practice makes perfect. After a lot of training in viewing and using maps, the sense of map and the ability to grasp maps are obviously stronger than those who have no basis in using maps. The content of military topography in our military academies is usually taught in one semester. After the course teaching, there are few training or use of relevant types of courses. As a result, even if they have learned during teaching, many students do not use them for a long time and they forget everything when they need it. This reminds us that we must run through the relevant content as a daily training for students.

3.2. The Formation of Skills Varies from Person to Person and Progresses Gradually

As colleges have more trainees and fewer teachers, there is a situation that there are 70, 80 or even
hundreds of students in the teaching class. This is in contradiction with the students' different levels of acceptance and most of them need to receive targeted guidance. The large number of students means that there is a lack of one-by-one guidance in the classroom and the teachers cannot accurately grasp the students' learning situation which has caused many students to digest knowledge points with difficulties that they do not understand in the learning process. Nowadays, most of the training courses for orienteering are less than 20 people, who can fully interact with the learners and complete the learning efficiently.

3.3. The Training Method of Recognizing Pictures and Using Pictures is Worth Learning

Orienteering competition is one of the internationally recognized competition events. Universities or sports teams also organize orienteering competitions with the purpose of competition. Therefore, there are various training methods. Among them, many military forces have used efficient training methods. There are also training methods that coaches and athletes learn from abroad or create their own. With a wide variety and strong pertinence, these training methods can be directly applied to the teaching of military topography. I believe it can significantly improve the students' level of image recognition and use.

3.4. Enhance the Fun of Training

As a competitive sport, orienteering has gained popularity by more and more people. This is precisely because of its strong interest. Our in-class teaching are similar in content, but we blindly emphasize formality and orthodoxy with rigid and inflexible methods. Many students doze off during class and they are also listless and easy to muddle along. If we could organize corresponding training like an orienteering competition, I believe it can greatly enhance the interests and enthusiasm of students in learning to enhance the effectiveness of teaching.

4. The Role of Orienteering in Cultivating Modern New Commanders

Orienteering is a smart sport in nature. The former World Orienteering Championship champion Olsen often said: "Orienteering is like a marathon and a chess match being played by one person at the same time." which vividly reflects this characteristic of orienteering.

4.1. Improve Students' Physical Fitness

Orienteering training distance is generally 3-15km within 6-15 checkpoints. In fast cross-country, it is necessary to look at the image and stop at each checkpoint as a check-in. It is often run for a while, stop, then accelerate for a while which makes it impossible for a cross-country person to run the entire course without any worries. Therefore, in the whole course of cross-country, both the endurance quality of long-distance running and the speed quality of short-distance running are necessary. The sport itself is actually a long-distance intermittent cross-country. Experiments on orienteering show that orienteering is a typical moderate-intensity exercise with aerobic endurance as the mainstay, and the improvement of endurance level depends on the number of training, intensity, duration and exercise method. Therefore, long-term orienteering training can fully mobilize the human body's breathing—circulation function, and have a beneficial impact on the organism with the improvement of orienteering skills. The stronger the ability to recognize pictures, the faster the running speed and the duration. As long as one persist in training for a long time, it will have a positive effect on cardiopulmonary function, effectively develop aerobic and anaerobic endurance levels, thereby improving the endurance quality of soldiers.
4.2. Improve the Students' Ability to Understand Maps and Analyze Terrain

Analyzing and judging the terrain is not only a prerequisite for off-road, but also the key to off-road success. Through directional cross-country training, trainees can theoretically deepen and consolidate their understanding and digestion of topographical knowledge, laying a good theoretical foundation for plotting. Orienteering requires participants to continuously identify the map, keep the map icon fixed, determine the standing point, clarify the target point, plan the route, remember the obvious markers in the route and proceed from the starting point to the destination according to the regulations on the map. The target point of the cross-country distance is the necessary point ahead, but the cross-country route between the target points can be selected according to the pros and cons of the on-site terrain. The brain is required to be always active and a slight weakness will cause the loss of the game. This process is close to our goal of cultivating commanders. The modern new type of commanding officers we train must learn to maintain an active mind and formulate the next battle plan despite heavy physical exertion\(^2\).

4.3. Training Students' Off-road Skills and the Will to Overcome Difficulties

Orienteering is usually implemented on unfamiliar terrain in the wild. Before the exercise, the terrain, vegetation, roads and so on can only be understood through maps because on-site surveys cannot be performed. The entire exercise process is carried out under different terrain conditions in the wild. Once the contestants leave the starting point, they are faced with overcoming the adverse effects of hills, forests, bushes, thorns, weeds, rivers, valleys, depressions, steep slopes and off-roading on rugged roads. These natural obstacles are all over the various stages of cross-country, hindering the full display of cross-country ability and sometimes causing damage to body bones, joints, skin and other parts. The cross-country process is actually a process of fighting various natural obstacles in the wild to minimize its impact on cross-country. In addition to physical fitness, it also depends on skills of overcoming obstacles such as terrain and vegetation.

5. Conclusion

Due to the comprehensive effects of orienteering cross-country training, the trainees can observe, analyze and judge on various complex terrains at all time during fast maneuvers and can accurately determine their current position in a very short time in addition to the location and target point to be reached in the front and judge the relationship between enemy situation, terrain, maneuvering direction and combat target, so as to select the best maneuvering route and action plan, preventing long time use of maps, wrong path or loss of direction to improve the rapid response ability of the local map.

The growing popularity of orienteering is closely related to military topography. It raises awareness of the military significance of orienteering, promotes the popularization of orienteering training in military academies and mobilizes the enthusiasm of officers and soldiers for training. Especially as the supplement of training courses in topography, such as map recognition and use, armed cross-country, field survival, it is of great significance for improving the overall quality of the students and military skills under field conditions.

References
