

Exploration of orienteering training in junior high school physical education

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Abstract: Introducing orienteering training into junior high school physical education classes offers significant benefits for enhancing students' physical fitness. Through endurance running and obstacle crossing, it effectively improves students' cardiorespiratory endurance, muscle strength, and endurance levels. Meanwhile, this sport helps foster students' independent thinking and problem-solving abilities, as they need to independently plan routes, interpret map information, and make quick judgments in complex environments. Furthermore, orienteering can strengthen students' teamwork spirit—during team tasks, they must collaborate effectively, communicate efficiently, and achieve shared goals. However, there are some shortcomings in current orienteering training in middle schools: the training content is often relatively monotonous and lacks innovation; limitations in venue resources also restrict the implementation of training; and the inadequacy of the evaluation mechanism results in feedback that is not timely or effective enough [1].

Keywords: junior high school physical education class; endurance running; team spirit; evaluation mechanism

1 Introduction

Orienteering combines physical strength and intelligence. It requires participants to reach the designated place in order within the specified area with the help of maps and compass. It can break the single mode of traditional sports training and provide students with challenging and interesting sports experience by introducing it into junior high school sports teaching. In the process of promoting quality education, the emphasis on cultivating students' comprehensive abilities in junior high school physical education teaching is constantly increasing. Orienteering training is in line with this demand. However, many problems exist in the implementation of orienteering training in most junior high schools, which affect the full effectiveness of the training. Exploring effective paths for its implementation is of great practical significance.

2 Innovative training content design

Designing layered training content needs to fully consider students' age characteristics and cognitive levels, so that students at different stages can obtain training experiences that are suitable for themselves. When conducting training for lower grade students, cartoon maps with bright colors and simple markings should be used. The routes on the map should be mainly straight lines and short distances, and each target point can be marked with familiar cartoon patterns such as animals and fruits. Before the training starts, the teacher should lead the students to understand the correspondence between the map markings and the actual site, and then divide the students into groups for simple point finding exercises. Each group is led by a student with slightly stronger abilities to find 3-5 target points within the specified time. After

completion, each group will share and find some methods, followed by teacher-guided feedback and skill consolidation to help students master the basic skills of viewing maps and identifying directions in a relaxed atmosphere.

Training will be conducted for senior students using professional directional exercise maps, which indicate detailed information such as contour lines, vegetation, and buildings. When designing routes, obstacles such as intersections, bushes, and low walls should be incorporated to increase complexity. Some target points can be set in concealed locations (e.g., behind large trees or adjacent to rocks), requiring students to meticulously analyze terrain symbols and distance markers on the map for precise navigation. Prior to the training, the instructor should brief participants on professional map symbology interpretation and tactical obstacle avoidance techniques, and then ask students to independently complete an orienteering mission comprising 8-10 target points while maintaining accurate time logs. Upon completion of the training, students can be organized to analyze the tactical rationale of their route selections, explore the optimal obstacle avoidance strategies, so as to enhance their independent judgment and problem-solving abilities.

3 Optimizing the utilization of venue resources

A dynamic venue allocation system should be established to seasonally adapt campus spaces for directional sports training, optimizing existing facility utilization. In spring, the blooming flower beds and sprouting forests on campus can be utilized to design routes, allowing students to navigate between flowers and trees to complete directional tasks while immersing themselves in the seasonal environmental changes; In summer, shaded areas on campus and the shadows of teaching buildings can be selected to establish routes, minimizing prolonged student exposure to sunlight; In autumn, designers can combine the ground covered with fallen leaves and fruit trees with ripe fruits to create target points, thereby enhancing the natural variation elements of the site; In winter, training can be conducted in multiple locations—including passages between teaching buildings, covered playground areas, and indoor sports halls—to ensure continuity despite cold weather conditions. After each site change, the teacher should redraw the map, annotate new terrain features, and allow students to adapt to directional training in different environments.

Schools should strengthen cooperation with surrounding communities and parks, proactively communicate with management to sign long-term venue usage agreements and regularly organize students to conduct training at these off-campus venues. Within the community, routes can be designed using the roads, green belts, and small squares around the resident activity center, setting target points at iconic locations such as community bulletin boards and fitness equipment. In the park, with the help of terrain features such as slopes, trails, lake surroundings, pavilions, etc., instructors can design routes that include elements such as uphill and downhill, turning, and circling around the lake to provide students with diverse terrain environments. Before each off-campus training, teachers should conduct site surveys to eliminate safety hazards, draw detailed maps, and coordinate training schedules with site management to avoid disrupting residents' normal activities. During training, schools can arrange sufficient teachers and parent volunteers for safety supervision to ensure the safety of students' activities.

4 Building a diversified evaluation system

Schools should change the traditional evaluation method based solely on completion time and establish an evaluation system that covers multiple aspects such as process, skills, and cooperation, comprehensively reflecting students' training situation. In the process evaluation, teachers should pay attention to students' participation attitude, effort level, and progress through classroom observation, training records, and other methods. Teachers should establish a training file for each student, documenting their participation time in each training session, their level of seriousness in completing tasks, their response performance when encountering difficulties, etc. Only by regularly providing feedback to students on their strengths and areas for improvement during the process can they understand and recognize their efforts, and enhance their

motivation for training.

5 Implementing interdisciplinary integration training

Educators can integrate orienteering with knowledge from other disciplines, designing diverse interdisciplinary training tasks to enable students to learn and apply multidisciplinary knowledge in orienteering. In the mathematics-integrated training, the actual distance and scale between target points are marked on the map, and students are asked to calculate the distance between two points on the map; Additionally, angle markers such as 30 degrees and 60 degrees are set along the route for students to determine the direction of travel [2]. In the process of calculating route distance and judging angles, students consolidate mathematical knowledge such as scale conversion and angle measurement, and understand the application of mathematics in practical life.

In the geography-integrated training, instructors can select sites with different terrains (e.g., mountains, plains, and water areas), and mark corresponding terrain symbols on the map. Before training, geography teachers can cooperate with physical education teachers to explain the causes and characteristics of different terrains; During training, students are required to record the terrain type of the target location and analyze its relationship with the surrounding environment, deepening their understanding of geographical concepts such as topography, geographical symbols, etc., and cultivating their geographical observation ability.

6 Conclusion

The innovative development of middle school sports orienteering training is of great significance for the comprehensive development of students [3]. The implementation of strategies such as innovating training content, optimizing venue utilization, and building a diversified evaluation system can effectively address current training problems and improve training quality. During implementation, it is necessary to strengthen teacher training and safety measures to ensure the smooth progress of training. The continuous improvement of directional exercise training can enable more students to experience the charm of this sport, cultivate various abilities in the process of improving physical fitness, and lay a solid foundation for their future development.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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