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TEACHING METHODOLOGY OF LONG-DISTANCE RUNNING TECHNIQUE

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Annotation: This article explores the methodological aspects of teaching long-distance running techniques, emphasizing the importance of biomechanical, physiological, and psychological foundations in coaching practices. Long-distance running requires not only physical endurance but also refined movement patterns, rhythm control, and energy efficiency. The effectiveness of teaching is closely related to how well the instructor integrates theoretical knowledge with practical drills and individual athlete characteristics. The paper outlines pedagogical principles, phased learning strategies, and motor skill development approaches tailored to long-distance runners. It also highlights the importance of feedback, visual modeling, and the use of modern technology in technique correction and performance analysis. Ultimately, a structured and athlete-centered teaching methodology enhances both performance outcomes and long-term athletic development.

Keywords: long-distance running, teaching methodology, endurance, biomechanics, running technique, training strategies, motor learning, athlete development, coaching pedagogy

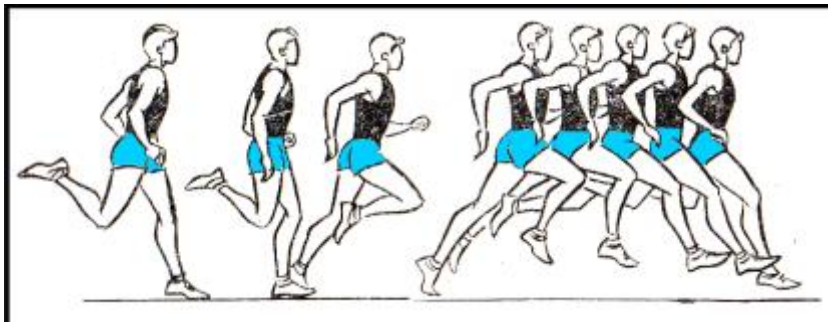
Introduction

Beautiful and economical execution of running technique is the main factor in achieving high results in all types of running. As is known, the technique of running for medium and long distances, according to its external signs, should express the ability to run easily and beautifully and the harmony of the alternation of the rhythm of running, such as muscle tension or relaxation, the coordination of all movements along a straight line. Individual features of the body structure, of course, affect the running technique, which indicates that each athlete has his own unique way of mastering the running technique. As a result of long training, quite stable skills can be formed, including incorrect movements that become habits. As a result, the athlete may perform the running technique incorrectly, and in this case, the excess energy and time spent running will affect the sports result. Therefore, it is advisable to pay attention to teaching correct running movements from the initial stage of training. When comparing and analyzing the technique of runners of different sports categories, it is necessary to proceed from the characteristics of their running style. Usually, when analyzing running technique, the second step or cycle of movement is defined as a unit of movement. Each cycle consists of two periods of support and two phases of flight. During running, the duration of the support period in the movement of the legs is always shorter than the duration of the period of swinging movements, thus the flight phase occurs. When an athlete runs, the following features of the influence of external forces are observed: a) overcoming the inertia of a stationary position when running from the start; b) changing the resistance force of the environment depending on the running speed; c) the periodicity of the effect of the support reaction.Long-distance running stands as a prominent discipline in athletics that demands a combination of physical stamina, mental resilience, and refined technique. Unlike sprinting, which emphasizes explosive power, long-distance running relies on sustained energy output, efficient biomechanics, and consistent pacing. While many training programs emphasize aerobic capacity and endurance, the role of proper technique instruction is often underestimated. Teaching long-distance running technique requires a clear methodological framework to guide athletes through skill acquisition,

correction, and performance optimization. Coaches must develop a deep understanding of movement mechanics and tailor their approach to the individual needs of athletes.

Biomechanical Foundations of Long-Distance Running

During the stance phase, the pressure force exerted on the ground and the sharp increase in the reaction of the support exceeding the weight of the runner cause vertical oscillations of the total center of gravity (CCG) of the body. This oscillation, although not very noticeable, has its effect on the violation of running technique. Movements in the joints are carried out along large arcs and at the required speed. Therefore, the effect of inertia and the interaction of muscle activity are fully manifested during running.



From the point of view of the influence of external forces on the forward movement, the stance phase is the most important. Therefore, when we briefly analyze the running technique, the body deflection fluctuates between 700 -800 at medium and long distances. The phase of placing the foot on the ground during running. In modern running techniques, a softer foot placement is required at the initial support, and for depreciation, the foot is usually pressed to the front of the palm, closer to the line of the body's u.o.m. (Fig. 3.40, frame 1). In the initial phase of the support, the placement of the leg slightly bent at the knee joint depends on the running speed. As the running speed increases, as a general rule, the foot is placed on the ground with tension, and the support reaction time becomes shorter.

Running technique plays a pivotal role in conserving energy and preventing injuries. Biomechanically efficient runners exhibit key characteristics such as proper foot strike (preferably midfoot), upright torso posture, optimal arm swing, and controlled stride length. In long-distance events, these features must be maintained over time, making economy of motion critical.

A coach must break down the running cycle into phases—stance, propulsion, flight—and analyze each segment to detect inefficiencies. Drills that reinforce proper movement, such as high knees, butt kicks, and stride bounding, are useful tools to ingrain correct motor patterns. These drills should be integrated progressively, allowing athletes to transfer improvements into actual running.

Pedagogical Approaches to Teaching Technique

Effective teaching starts with a clear understanding of educational principles. Instruction should follow a progressive model: from general movement familiarity to technical mastery. The methodology includes demonstration, guided practice, correction, and repetition.

Early sessions focus on posture, foot placement, and rhythm. As the athlete progresses, coaching shifts to finer details such as cadence optimization and ground contact time. Verbal cues, kinesthetic feedback, and video analysis help refine form. Teaching should be individualized, recognizing that anatomical differences require personalized technique adjustments.

Phased Learning Strategies

Teaching long-distance technique is most effective when organized in structured stages:

- **Initial Phase**: Athletes are introduced to foundational mechanics through slow-paced runs, emphasizing posture and relaxed form.
- **Skill Development Phase**: Coordination drills and tempo runs are used to improve stride control and aerobic efficiency.
- **Technique Integration Phase**: Athletes incorporate refined techniques into actual long runs, monitored for consistency.
- **Performance Enhancement Phase**: High-intensity interval sessions and race simulations test and reinforce technique under stress.

This staged approach allows for gradual adaptation, reduced injury risk, and the formation of long-lasting neuromuscular patterns.

Role of Feedback and Correction

Constructive feedback is crucial in the teaching-learning process. Coaches should offer timely, specific, and actionable feedback, avoiding vague comments. Visual feedback, particularly via video playback, enables athletes to observe and understand their own movement errors. Paired with real-time correction, this enhances self-awareness and encourages faster improvement.

Peer review, mirror running, and augmented reality tools are increasingly used to provide immediate correctional input. These methods not only improve technique but also increase motivation and engagement during training.

Conclusion

The teaching methodology of long-distance running technique must balance scientific principles with individualized coaching practices. Biomechanical efficiency, progressive learning, accurate feedback, and the integration of modern technology all contribute to effective instruction. A well-designed pedagogical approach not only enhances performance but also builds the foundation for injury-free and sustainable athletic development. Coaches who prioritize technique instruction alongside endurance training will better prepare their athletes for competitive success.

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