BG Pulse Journal USA
ISSN:1947-2536 http://www.bgpulseusa.com/index.php/bg

STAGES OF TEACHING WRESTLERS MOTOR ACTIVITY

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Abstract. This scientific article covers the pedagogical and physiological foundations of teaching athletes technical movements in wrestling disciplines (freestyle, Greco-Roman, judo, and kurash). The process of developing technical movements in wrestlers is analyzed from a scientific perspective. The physiological mechanisms and pedagogical objectives of the three-stage system of acquiring motor skills — initial learning, in-depth learning, and consolidation (refinement) stages — are explained. The article substantiates the patterns by which motor skills become dynamic stereotypes, using wrestling sport as an example.

Keywords: wrestling, motor activity, technical preparation, dynamic stereotype, irradiation, concentration, automatization, pedagogical monitoring.

Introduction

Modern wrestling disciplines (freestyle, Greco-Roman, judo, and national wrestling/kurash) are characterized by their high dynamism, diversity of technical techniques, and the necessity of making instant decisions in the face of active resistance from an opponent. A wrestler's success in competition depends not only on the breadth of his technical arsenal, but also on the biomechanical perfection of each movement and its degree of automatization. For this reason, organizing the process of teaching athletes motor activity on a scientific basis remains one of the most pressing problems of sports pedagogy.

Teaching motor activity is not merely the repetition of physical exercises; it is the process of forming new, complex chains of conditioned reflexes in the central nervous system (CNS). The fundamental basis of this process rests on I.P. Pavlov's doctrine of the dynamic stereotype, N.A. Bernstein's theory of movement construction levels, and P.K. Anokhin's theories of functional systems and afferent synthesis. According to these theories, the formation of motor skills arises as a result of the successive alternation of excitation and inhibition processes in the CNS.

In scientific-methodological literature, the process of acquiring motor skills is traditionally divided into three interrelated stages:

1. **Initial Learning Stage** — during which, as a result of irradiation (widespread dissemination) of excitation in the CNS, a general understanding of the movement is formed.
2. **In-Depth Learning Stage** — through differential inhibition and the concentration of excitation, a precise kinematic structure of the movement is developed.
3. **Consolidation and Refinement Stage** — as a result of the automatization of movement and the stabilization of the dynamic stereotype, the skill develops into a high-level habit.

The purpose of this article is to analyze, from a scientific-methodological standpoint, the stages of teaching wrestlers motor activity, to substantiate the psychophysiological changes occurring at each stage, and to develop recommendations for increasing the effectiveness of technical preparation. If the teaching of wrestlers is not carried out systematically and in stages, technical errors may become chronic, and results may plateau at higher levels of mastery.

Stage 1: Initial Learning (Forming a Motor Image)

The primary goal of this stage is to form a correct theoretical and visual understanding of the technique being studied, and to achieve the ability to perform the movement in a general form.

Physiological Mechanism: At this stage, the process of irradiation (the wide spread of excitation across the cerebral cortex) dominates the CNS. As a result, unnecessary muscle groups also become involved in the movement. According to P.K. Anokhin's "Afferent Synthesis" theory, the brain collects all external (coach's instructions, mat conditions) and internal (muscle readiness) information before executing the technique. Excitation spreads not only to the necessary centers, but also to neighboring nerve centers.

Characteristics: The wrestler's movements are uncoordinated and performed with excessive tension; the rhythm of movement is disrupted. Unnecessary muscles become tense during execution (antagonist muscle resistance). Movements are rough, coordination is impaired, and energy expenditure is very high.

Methodological Recommendations:

• Demonstrating and explaining the technique
• Teaching the technique in parts (e.g., first the grip, then foot positioning, then the throw)
• Correcting errors immediately — otherwise an incorrect motor habit will be formed
• Visual perception of the technique through the brain's mirror neurons
• Dividing complex techniques (e.g., a shoulder throw) into elements (foot placement, rotation, grip) to study separately
• Note: If an error is formed from the first attempt, it becomes a "wrong dynamic stereotype" — correcting it later is 10 times more difficult

Stage 2: In-Depth Learning (Forming Motor Skills)

At this stage, the details of the movement are worked on, and all parts of the technique are unified into a single whole.

Physiological Mechanism: The irradiation process is replaced by concentration (the focusing of excitation at a specific point). Inhibitory processes in the cerebral cortex intensify, and unnecessary movements are limited. According to Pavlov's teaching, differential inhibition emerges — the brain begins to distinguish between "necessary" and "unnecessary" impulses. As a result, antagonist muscles relax and only the agonist (working) muscles function.

Characteristics: Movements become more precise, lighter, and rhythmic. The athlete can direct attention to technical details. The kinematic structure of the movement (direction, amplitude, speed) stabilizes. The athlete begins to sense the position of his own body during execution (proprioceptive sensation is enhanced).

Methodological Recommendations:

• Repetitive training — extensive repeated practice
• Kinematic analysis (showing errors through video analysis)
• Beginning to perform the technique from various grip positions
• Explaining to the athlete which muscle group to focus on (e.g., "when throwing, push with the legs, not the waist")
• Comparing the actual movement with the reference model in the brain by watching oneself from the outside
• Strengthening nerve pathways by repeating the technique hundreds of times on a non-resisting partner

Stage 3: Consolidation and Refinement (Automatizing the Skill)

At this stage, the motor skill becomes a habit. The goal is to achieve flawless execution of the technique even under resistance from the opponent, fatigue, and psychological pressure.

Physiological Mechanism: A stable dynamic stereotype is formed in the CNS. Control of the movement is transferred to lower nerve centers (automatization). According to N.A. Bernstein's theory of "Construction of Movements," the function of movement control transfers from the cerebral cortex (conscious control) to subcortical structures (automatic control). This frees the wrestler's consciousness, allowing focus on tactics rather than technique execution.

Characteristics: The technique is performed unconsciously, automatically in instantaneous situations. The athlete can adapt the technique to the opponent's weight, height, and style (high variability). The wrestler can execute flawlessly from any position (when the opponent resists, at the edge of the mat, when fatigued). Movement becomes highly economical (maximum result with minimum energy expenditure).

Methodological Recommendations:

• Special preparation exercises and training bouts

• Performing the technique against a background of fatigue (combined with endurance training)

• Situational exercises (e.g., performing a technique at the edge of the mat, or attacking in a losing situation)

• Situational preparation: executing the technique in various tactical situations (e.g., as a counter-attack)

• Extreme conditions: performing the technique at the end of a training session to test reliability

• Psychological pressure: applying the technique in competition-like conditions, in the presence of referees and spectators

Conclusions and Practical Recommendations

These three stages of teaching wrestlers are inextricably linked; artificially accelerating them leads to technical deficiencies:

4. In the first stage — visual and logical understanding takes priority
5. In the second stage — sensation (muscle feeling) and precision take priority
6. In the third stage — adaptability and tactical application take priority

This scientifically grounded system makes it possible to elevate the athlete's technical mastery from the level of a conditioned reflex to the level of artistry. At each stage, it is scientifically imperative for the coach to take into account the state of the athlete's nervous system (fatigue, concentration of attention).

Analysis of the teaching process allows us to draw the following scientific conclusions:

7. **The principle of consistency:** A small technical error made at the first stage can lead to the athlete's defeat at the third stage. Therefore, before moving on to the automatization stage, movement technique must be brought to an ideal level.
8. **Psychophysiological dependency:** The teaching process must correspond to the athlete's individual psychological characteristics (temperament, reaction speed).
9. **The importance of variability:** In wrestling, standard situations almost never occur, so practicing the technique under various resistance conditions during the refinement stage ensures stability of the skill.

This staged teaching system not only expands the wrestler's technical arsenal but also provides the ability to apply it effectively in extreme competition conditions.

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