

Is Sport Practice Rationally Constructed?

James Smith

Director of Sports Programming Juggernaut Training Systems

www.powerdevelopmentinc.com

If the mechanism of winning was not rooted in sport physiological sense then the win was a function of something else.

‘Many roads lead to Rome’ and thus, there is more than one way to win.

It is quite possible to win in spite of an operation that is influenced by varying degrees of incompetence. Likewise, it is also quite possible to lose in spite of an operation that is influenced by varying degrees of brilliance.

Exclude the following from your thinking:

- How many championships a team or athlete has won
- How many wins a coach/coaching staff has been associated with
- How many wins a coach was part of as an athlete
- What the coaches of your coaches did when they were winning championships
- How long a coach has been coaching and at what level

Regardless if the discipline is multi-motor regime, acyclic, cyclic, team or individual the variability lies in the nature of the human organism represented by the athletes themselves.

Morphobiomechanical and neurophysiological diversity presents such a degree of variability that it is not possible to intelligently associate the competitive success of most disciplines, particularly team sports, to one sports preparatory training element alone.

Think not of what was or what is; but rather, what could be.

### **What happens on which day of the week in relation to game day?**

The practice of every conceivable sport maneuver, in its technical-tactical and physical context, may be physiologically accounted for via the tenets of Dynamic Correspondence as elucidated by the late Dr. Yuri Verkhoshansky:

- The amplitude and direction of movement
- The accentuated region of force production
- The dynamics of the effort
- The rate and time of maximal force production
- The regime of muscular work

One must then logically consider the biodynamic/bioenergetic structure of practice drills; and where these stressors lie along the continuum of intensive to extensive efforts. Each type of physical effort presents a wide range of programming implications; not the least of which include, but are not limited to, workload versus recovery, CNS stress tolerance, and workload compatibility. Correspondingly, these must be factored against the biodynamic/bioenergetic structure of the game; and, as a consequence, the structure of the game will dictate how to effectively structure the weekly practice load in order that the athlete(s) readiness is peaked for each contest.

Sport structures that are heavily weighted towards anaerobic-alactic, anaerobic-lactic, aerobic, or mixed system stress each require different tapering protocols, practice taxonomy, and scheduling.

### **What is the mechanism of choosing how much and what type of drills to perform on which day and why?**

It is vital that the training load volume constituted by technical-tactical training is as closely managed and accounted for as any other aspect of the training load.

For example:

- Managing elements of practice according to time spent, as is often the case with team sports, is a wildly unstable endeavor. In order to preserve training effect integrity it is essential that work: rest intervals and training intensity are preserved despite how many athletes are present.
- Thinking that a designated practice period that is truncated from 20minutes to 10minutes poses less stress may be wildly off-base if the 10minute session is conducted with fewer personnel, at altered work: rest intervals, or at higher intensities. In all cases the density of the work is increased and will increase the stress of the work.
- Forming an aggregate of different workload regimes may pose either positive or negative influence on adaptation as well as recovery.
- The performance of CNS intensive work on consecutive days must be carefully managed; particularly regarding the performance of same or similar kinematic motions.
- Training effects are categorized temporally (i.e. acute, immediate, cumulative, delayed...). It is thus, erroneous, for the coach/coaching staff to form negative opinions based upon the evaluation of a single practice that may very well be just one episode amidst a mismanaged process of their own doing. A common scenario is for a team to appear flat, unmotivated, in their practice efforts. This is commonly misinterpreted by coaches as a problem rooted in the athletes' motivation, focus, and lack of respect for their next opponent, and so on and often rewarded with extra 'conditioning' or at the very least- harsh language. When, in fact, the actual culprit is a mismanaged physical and technical-tactical training load that has left the athletes overworked and insufficiently recovered. Thus, the problem lays amongst the coaching staff and their coaching efforts- NOT the athletes, and the extra 'conditioning' and psychological abuse only serves to dig a bigger hole that the athletes must climb out of prior to the day of the contest.

### **Do the practice drills actually serve to develop a relevant sport skill or are they filler?**

Attention coaches: consider the athletes you coach and how they move during contests. Forget for a moment about the game itself, and what anyone has ever told you, and only pay attention to movement. Now consider the types of drills that you require the athletes to execute during practices and, using the Theory of Dynamic Correspondence explained earlier, decide whether or not the drills are actually relevant towards enhancing the speed or technical execution of the sport maneuvers.

- Do you place a high degree of pressure on the athletes to successfully negotiate fixed agility courses marked with cones or bags and threaten them with pushups or extra running if they bump into one of the markers? If so you can rest assured that speed of movement will not be developed. One of the key skills that separate the fastest and most agile athletes from their inferior counterparts is their ability to relax antagonistic musculature. Speed of movement is not developed under hurried/high pressure conditions- it is tested. In order to develop it you must ensure that the athletes are as relaxed as possible. Fixed agility courses present a situation that is more natural to certain anthropometric types, power output potentials, and stride lengths and more awkward for others. This ensures one thing and one thing only- some degree of efficiency, over time, in negotiating the misdirected training exercise. Good news for the agility drill Olympics; however, unpredictable improvements in movement ability separate from the course.
- Do you require your athletes to perform drills in practice that are 'kind of' similar to the kinematic motion of a competition maneuver? If the drill is close in a kinematic or neuromuscular sense, yet not close enough, it is possible that you are destroying your athletes' competition skill by requiring that they master an unrelated one during the hours and hours of cumulative practicing throughout the competition calendar.

### **What is the rationale behind the sequence of drills performed in a practice?**

Coaches:

- Do the athletes stand around or participate in technical-tactical work that is of low physical effort for +10 minutes then follow with high intensity drills involving rapid deceleration? If so, you have devised a recipe for muscle pulls.
- Do you construct sport practice in a manner that requires the athletes to move quickly, accelerating/decelerating, or make contact with an opponent prior to a thorough warm up? If so, you have devised a recipe for injury.
- How much time do you allow for pre-practice warm up? If it's only a fraction of what the rest of the practice periods consist of then you will be keeping your physio staff busy with non-contact related injuries.

- Does the bulk of the pre-practice warm up consist of static stretching alone? If so, you are ensuring that not enough local heat is developed in the athletes muscles and predisposing them to a host of potential non-contact related soft tissue problems.
- Non-contact injuries are nearly entirely attributable towards a mismanaged training load. If your athletes are experiencing a host of them your attention must first be directed towards the training.

### **What training effect is yielded by the work: rest intervals and the intensity of the drills?**

Consider the sport you coach and the bioenergetics structure of the contests themselves. Now consider how the work: rest intervals associated with your sport practices relate to the bioenergetic demand of the competitions.

American football coaches universally gravitate towards up tempo practices in which activity is a constant throughout.

- How does the bioenergetic structure of such demands compare to the game?
- Of the ~3 hours consumed by collegiate and professional games less than 10 minutes are spent actually playing between snaps by either team's starting personnel (in the extreme, a collegiate offensive linemen in a no huddle/hurry up spread offense might see 90 snaps a game. At an average of 3-4 seconds per play that comes out to 270-360 seconds of work: 4.5-6minutes). The other 2 hours and 50 some odd minutes are spent...standing around.
- Interestingly enough, a significant commonality between most team sports is that the athletes perform a lot of standing, walking, and jogging around which is interrupted by brief episodes of activity ranging in intensity and biomechanical character.
- How is that bioenergetic demand reflected in the physical and technical-tactical preparation of your team?
- What degree of your construction of sport practice and physical preparation is based upon knowledge of the scientific structure of the technical-tactical way in which your athlete(s) execute the completion exercise?
- Is there a coordinated interplay between your athletes' physical and technical-tactical preparation? Are the two workloads compatible with one another?
- In your effort to 'out work' your opponents during the off-season and practice weeks are you actually making it more difficult for your athletes to perform to their potential on game day?

The entire training load must be carefully constructed in order to induce targeted adaptations. This requires that it be managed by an individual or individuals who understand sport and human physiology.

Who's managing your program?