

FIXING THE RIGHT PROBLEM

By Dave Kerin

The author, a "semi-retired" coach now working with the USATF, offers his holistic and integrated view on motor learning for the technical events, examining learning strategies and key developmental factors that lead to athletic competency and successful performance. Re-printed with permission from the author.

We've all been there. We have an athlete that shows great promise. Often that athlete has achieved some level of success in their event but they just can't seem to break through to the next level. We try every trick in the book in instructing our athletes how to maximize their performance in that ultimate moment (plant thru takeoff in jumping events, or the power position thru implement's release in the throws). But the athlete just can't seem to break through. So what's the answer you ask? In the spirit of the quiz show Jeopardy, perhaps the answer is best posed first as a question. As in, what is: *Are we fixing the right problem?*

- **Clouseau:** Does your dog bite?
- **Hotel Clerk:** No.
- **Clouseau:** [*bowing down to pet the dog*] Nice doggie. [*Dog barks and bites Clouseau in the hand*]
- **Clouseau:** I thought you said your dog did not bite!
- **Hotel Clerk:** That is not my dog.

From www.imdb.com

Where the rubber meets the road is one of a number of euphemisms coaches use in place of harsher words when frustrated with an athlete's lesser performance level, compared to what we perceive that athlete's real potential to be. It describes the pivotal moment in a jump or throw. Surely by redoubling our and our athlete's efforts in this area we will find the improvement that we seek? More specific on this, in recent years the US Olympic Committee has charged USA Track & Field with identifying this *Critical Zone* inherent to each event. USATF activities undertaken with USOC monies have had to address the CZ first & foremost. The emphasis being to keep the focus on improving this country's medal hauls at the Olympic Games and World Championships.

The purpose of this piece is to speak to the disconnect that often exists between instructing to the CZ vs. *Fixing the Right Problem*. In an odd twist, a well intended but premature focus on the CZ could be a great impediment to the improvement of developmental level athletes as well as future medal contenders. This is not intended to

challenge the CZ theory, the importance of which stands on its own merit. However it does not exist in a vacuum. The reality is that no athlete ever initiates a competition-effort jump or throw by beginning that attempt at the climatic moment. Every attempt is in fact a sequence of events, each building on that which preceded it, all being co-dependant. The ultimate moment that the CZ reflects is wholly dependent on the penultimate moment, the penultimate dependant on that which immediately precedes it, and so on, and so on... For another athletic world reference, this is not unlike the kinetic chain's role in movements. While I acknowledge the primacy of the CZ, I offer that in many cases there is a greater potential reward in taking an "out of the box" view of what the critical component of a given competitive attempt really is.

Recently, Major League Baseball has been thinking out of the box as regards the critical moment in a game. Statisticians have begun to question the logic of saving your best relief pitcher for the last 3 outs of the game when the pivotal moment may have come innings earlier, in say a bases loaded situation mid-game with the opposing team's best hitter coming to the plate. In our sport, consider the suggestion that the most critical moment in an athlete's less than desirable competitive effort is actually the moment(s) immediately prior to which one's immediate focus is drawn to. A greater command of the CZ is impossible without first having mastered the components that lead into it. If an athlete is not well schooled in the lead-in phases of the attempt (and related biomotor skills) as they relate to the total performance of an attempt, they are not likely to achieve their ultimate level of success. Too often I see athletes with greater potential, self-limited by poor performance of lead-in phases. At worst, injury results.

"Imbalance in training as viewed in the biomotor qualities, is where injury and failure have their roots"

Gary Winkler

Along with their key role in technique performance, I suggest that many injuries can be traced back to deficiencies the athlete has in the basic biomotor skills. Deficiencies present as poor motor programs and injury results from the repeat abuse that occurs when repetition & intensity, in training & competition, are applied to the flaws. Repetitive misuse syndrome plays out to a point where they can't practice and or perform at competition intensities without continual injury flare-ups. These athletes apply recovery modalities, seek treatment, and reduce training volume & intensity but if they don't get the right problem fixed, the closed loop of repeat abuse continues to play out.

In the case of a jumping event athlete, if they can't run correctly or if they lack core strength, or balance, etc, etc..., an over-emphasis on the ultimate moment of an attempt will fail from the lack of any of those basic qualities. And how often do we see an athlete employ "stylistic" components not grounded in biology, physics and that are not a match to their morphology or level of biomotor competency?

Dam Bones

In deconstructing a field event attempt (in this case, the Long Jump) you find linkage of successful performance in the CZ to its preceding phases and the basic qualities the event requires. The following is a borrowed outline (from a Boo Schexnayder piece) of the technical components that make up a single attempt in the Long Jump. I have inverted the original outline to read from takeoff backwards to the initiation of the attempt.

In the Long Jump, an optimized plant thru takeoff is connected to the penultimate's:

- 1. Contact underneath or only very slightly in front of the body.*
- 2. A dorsiflexed ankle prior to contact*
- 3. A heel to toe, rolling action of the foot, much like the action of a rocking chair against the floor.*
- 4. Displacement of the body beyond the penultimate foot before the foot leaves the ground. This aids displacement and increases the swing arc of the swing leg, making it more effective.*

An optimized penultimate is connected to:

- 1. The final steps of the approach should continue to exhibit good mechanics, notably continuing to display vertical velocities upon the push-off from each step.*

Optimized final steps of the approach are connected to:

- 1. Proper posture, consisting of neutral head and pelvic alignments*
- 2. Progressive body angles through the drive phase, accomplished by using the legs to push the body up into running position.*
- 3. Vertical velocities being generated with each step*
- 4. Relaxation and patient frequency increase, allowing the pelvis to move freely within its postural alignment.*

And so on... and so on...

Employing an inverted view methodology, you can trace back undesirable results to their true roots, potentially needing to look as far back as to how they initiated the first step of the run-up. And taken to an extreme, back to pre-attempt arousal, and so on... and so on... Problems multiply exponentially beginning at the very first instance that less than optimal conditions / components are observed. At that point is where the training focus should center with as near to 100% mastery (within reason and

constraints) being the indicator for moving forward to the following links in the attempt chain.

“Athleticism: The ability to perform athletic movements (run, jump & throw) at optimum speed, with precision, style and grace within the context of your sport”

Vern Gambetta

When working with an elite post collegiate, most often they are well grounded in the biomotor skills from their years of previous training. While they can be deficient at times in given areas, the subject being discussed perhaps speaks more specifically to the larger number of developmental and advanced athletes aspiring to improve. Working with this group is challenging for many reasons.

I believe that we have a lesser pool of true athletes at the very same time the gene pool continues to improve. Through natural selection, better pre & post natal health care, etc, we bring healthier, more gifted children into the world. But from day 1, poor parental decisions and later on, the individual's poor choices, are detrimental from an athletic development standpoint. The race to get Jimmy or Janey to walk rather than crawl, progresses to throwing them into *Super-Elite, Traveling Team, All-Star, Regional Select* programs by age 5 which then leads to hiring a personal trainer because they are falling behind by age 6. Too often this trail of tears leads to the final nail in the coffin, the discovery of the one game that is not strictly regimented and parent-coached, X BOX / PLAYSTATION. Drive through a residential neighborhood take note of how few kids are running around in dynamic, unstructured play. Isn't that where the most fertile ground for biomotor development can be found?

Regarding biomotor development, a recent trend stands to make the coaching profession more difficult in the coming years. Although very well intentioned and I would never advise against doing so the recent practice of placing newborns & infants down to sleep on their backs has been cited as causing more and more infants to pass by the crawling stage in their development. Kids are standing sooner and walking sooner. This all before you add in the impact of anxious parents pressing the developmental timeline. The impacts this change will have on the developmental learning curve will be something to watch for. The potential is there for an even greater need for coaching intervention and remediation of the basics. These now newborn to say 10 year olds may very well lack some of the biomotor competency of previous generations.

Aside from that personal observation, I believe that the biggest issue for coaches training athletes today is the poor quality of even the best intentions of many adults working with our youth during their developmental stages. This is no small part of why coaches working with colligates have to waste time in remediation due to the lack of basic athletic competencies. Case in point: Dell Curry, ex-NBA player and father of Stephen Curry, the star of Davidson's recent run in the NCAA tournament is said to

have limited his son's play in AAU Basketball because he didn't believe they taught good fundamentals. In this case it seems father did in fact know best.

Pick a random youth - teen - HS athlete and ask them to skip or gallop. Got a blank stare? Now take something that they do well athletically and see how well they perform the same skill bi-laterally. Jimmy or Janey has a shelf full of trophies at home but struggles with the basic biomotor skills. The cut-backs to and declining quality of Physical Education in our schools is also of huge concern here.

A chain is only as strong as its weakest link

As earlier discussed, a single field event effort is made up of a progression of events, each of escalating importance. Error(s) prior to the CZ point out weak links. In order to *Fix the Right Problem*, identifying a flawed link only starts you down the road to resolution. Accepting that the CZ can't stand alone, in order to fix the flaw you must look at the preceding events. Mastery is the key here. In the rush to performance and hoped for success, many coaches and athletes skip over mastery in the part / whole learning curve. Its human nature to be in a rush just as it's human nature to spend minimal time on that which is perceived to be of lesser importance. This is flawed logic as the performance chain is only as strong as its weakest link. In that way, coaching is not unlike one of the trade professions, say an electrician or a plumber. Taking the plumber as example, he or she can fit out a house with pipes and fixtures that to the naked eye appear to be serviceable. However, once the system is turned on, you quickly find out where the leaks are. Again returning to the theme of tracing back, in that situation you follow the pipes back until you get to a shut off valve, repair the problem, and only then do you turn the water pressure back on. Identifying and addressing flaws in performance isn't really that much different.

One thing to keep in mind: Is the individual sufficiently trained in the basic skills the task demands of them?

1. At the Lane Symposium a fellow speaker gave a presentation on his athlete's needing to pass a Functional Movements Assessment, prior to full on training. If they can't stabilize in the statics, then dynamics / rotationals are more likely to blow them up. If you think back over past years you can see where on an athlete, the dynamic demands of an event has the potential to blow up them up. Follow the anatomy from the manifestation point to the actual weak link looking for cause not result. At the start of each fall assess the quality +/- of the potential weakness areas and remediate prior to piling on dynamic demands.
2. A coaching friend had recent success with one of his female field event athletes. I gave him a call to offer my congratulations. In the conversation I asked him what he thought it was that brought about such a dramatic improvement. He told me, "*I train them all the same. Like heptathletes...*" That simple statement made a huge impression on me. My feelings were even more confirmed when he went on to explain that he had learned to do so by a mentor, someone who I have great respect for as well. In a sense, isn't multi-event training simply defined as

being a search for the ultimate expression of biomotor mastery? Look no further for confirmation of this than the title conferred to the top Decathlete and Heptathlete, *The Worlds Greatest Athlete*.

3. Another consideration is the frequent case of an athlete who appears to be in command of technique in the practice venue. Putting them in the competitive arena often reveals their less than solid grasp of the necessities. Competition pressures, environmental concerns and other similar challenges serve to expose the weakest link in the performance chain. The classic example of this being the athlete who comes into a championship level meet with a huge mark and goes on to a performance nowhere near their previous PR.

“Unconscious Incompetence, Conscious Incompetence, Conscious Competence, Unconscious Competence”

unknown

“Stimulus, Adaptation Responses, Stabilization, Actualization”

Dan Pfaff

There is a saying from Buddhism that goes “*If you meet the Buddha on the road, kill him.*” I interpret that as speaking to a goal of Unconscious Competence. In Zen there are no short cuts on the road to enlightenment. Represented by the Buddha on the road, you must slay your pre-conceived notions and even some long held beliefs if you hope to reach Nirvana. I always admire the coaching greats who are able to adapt to new concepts.

Zen is a school of Buddhism known to focus on being in command of the moment and acting on things from that position of strength. Too often many coaches move athletes on down the developmental road as soon as any adaptation is observed, but well prior to the athletes having demonstrating command of the component under instruction. Using another East / West analogy, this is not unlike the western model of periodization of training which has been treated as dogma. The eastern model of training addresses acclimation and then maintenance of acquired skills and conditioning as part of moving forward to advanced concepts. Perhaps if the author had been a coach and not a newspaper editor, the famous quote from the 1850’s would have read, “Go east young man...”?

Yes I am aware that in reality there are few cases of true mastery. However I assert that the continual search for greater command of all the components that contribute to a field event attempt will yield greater performance results over time. The highest level athletes have to look beyond traditional norms to supplement the basics in their search for performance gains. Also, the competition period most often comes along before an athlete’s mastery of the given event’s requirements. I acknowledge that in many cases, limited attention spans and the demands of the competition period present before a full

command of all parts (phases) is demonstrated. Yet even in those cases, you don't abandon the search for mastery, but apply the art of coaching to keep working to an ultimate goal of incremental mastery within the confines of concurrent demands.

In today's world, problem solving seems to most often consist of a hurried explanation with corresponding instruction periods shortened in a rush to achieve / provide results. This is counterintuitive to the goals of quality and consistency of performance and this goes along way towards explaining the decline of quality and lack of pride in ones work that we see in society, let alone in athletic performance. Most coaches have an athlete for a 4 year period. For that athlete to achieve the highest expression of performance in an event, the proper consideration should be given to:

- Requiring the maximal competence possible in all biomotor qualities
- An optimal mix of whole / part and part / whole learning
- Technique instruction based on a Mastery Approach

As coaches, our highest calling is to put our athletes in the best possible position to achieve. A systematic elimination of impediments, beginning with the earliest, most basic components in a field event attempt, and working from a mastery requirement forward, offers the best potential for putting them in the best position to achieve greater success.

In summary:

When an athlete faces the ultimate "test" that competition presents, the "answer" is often best phrased as a question. Did their coach *fix the right problem?*