The G.P.S. Approach to Training:
Using GPS Technology In Today's Sports Performance World

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In recent times, new GPS technology (Global Positioning Satellites) has entered into the fitness & sports training worlds. From units as simple as an armband monitor & wristwatch, to units that attach right to a bike, or all-inclusive as a wristwatch only, GPS technology is re-shaping the way we look at how we do certain workouts and what transcribes from them. In the time before GPS units came on the scene, the only thing an athlete & a coach had to go by was a stopwatch & set distances, in order to "find their pace" or to track their speeds. Now, today's athlete can obtain such information from their GPS wristwatch and units, and their coach can evaluate workouts, sometimes even literally on the fly.

As the title of this article suggests, "The G.P.S. Approach to Training" is both an acronym, and connotative. G.P.S. stands for Gaining Performance Swiftly, with GPS technology to assist you. Through my coaching & training career, I have used GPS devices to assist in training my runners & athletes, and I have frankly seen them Gain Performance more Swiftly compared to more traditional means & ways.

Back in 2002, I first came across GPS technology for the sport of running with the Timex Ironman GPS unit. At that time, it consisted of an arm monitor that sent up signals to the GPS satellites and received them, plus also feeding all that information into my little watch to deliver quality data to me. Simply put, it was like getting a treadmill's readouts of paces, speeds, and distances you are covering, but getting it all sent to you while simultaneously on your run. I bought this unit the summer before I started coaching my XC team that fall. So, I had a good 4-6 weeks to figure it out and help me out with my training.

Coming into that season, I found it very helpful in using it as a 'catch-all' device for the pack of boys that I would run with in practice. My job on the team was to run with the boys on both speed workouts and longer distance runs. I found the GPS especially useful on the speed sessions on the track, and for a 1000m stretch of gravel road just a couple of blocks from the school. As I ran with the pack of close-knit runners, which most of them happened to run at similar times & paces within a few seconds of each other, I could give & shout out feedback to the boys during their runs.

For example, I'd keep a 6-minute mile pace going, by simply seeing what pace I was going at through my GPS watch. The boys knew this, and either kept close to me or kept ahead of me, according to their paces. On track workouts, it would work out great on old track we had, which had no 100m marks on it anymore. The GPS watch would literally tell me how far we went and what speeds we were going at.

No longer did we have to do the following:

1. Run an all-out 400m at our perceived race paces.
2. Get a time yelled at us as we crossed the line.
3. Try to remember our times as we were tired from such an interval.
4. Then, try to guess how hard that previous effort felt.

If you have been a track or XC athlete in the past, you know what I'm talking about there!

Now, during any point of our speed session interval trials, I could shout out paces & speeds to feedback to my boys, literally on the fly, teaching them instantly how to adjust their efforts accordingly. In common terms, our boys team would literally 'find their zone' for such race pace efforts in easier ways than guessing time & time again after their interval trials.

In 2003, I left coaching for a short while as I moved to Ohio for a new training job. I was able to implement my GPS watch with athletes to do maximum speed tests & trials using the watch as the data collector. My Timex system had a "Max Speed" readout to its options, which I found to be highly motivating to athletes who are not runners, but are into simply running as fast as they can. It was like giving an athlete a new "bragging right" benchmark to hit, such as most athletes will use a Bench Press maximum or Squat maximum weight to brag about when around their fellow teammates. Now, they'd have a "Top Speed" to acclaim. So, when the weather was right outside, I'd have the athletes go through some 40-60 yard all-out sprints to measure their maximum speeds attained over such distances. I used this range primarily because of the relay timing of the GPS coordinates to the sensor. You see, from what I have learned about GPS training, it takes roughly 3-4 seconds to transmit the signal from the runner to the satellites & back down to earth. (Amazing, huh?) So, a 40-60 yard dash trial would help the signals fall into that time frame to measure the athlete's maximum speeds.

Later on in 2005, when I returned to coaching a cross-country team, this time in the head coaching role, I used another key readout from my GPS unit: measuring distances & speeds in kilometers. I figured since most runners in the sport of XC run in 3K, 4K, and 5K distances, why keep on measuring things in

miles and converting all the time? The GPS watch readouts gave me so much more training information that I could apply with such a simple, already-done-for-me conversion into the Metric World of running. (I wish I would have thought about using this in 2002 when I first got the GPS watch, it would have saved me LOTS of math!)

This simple readout also helped me out tremendously when it came time to create speed workouts for the athletes. In the past, we mainly would do a 1000m straight, flat stretch of gravel road for 1K time trials, and use the old track for ¼ mile & ½ mile based trial workouts. I couldn't use the track in a convenient manner for my team, so I resorted to using 2 parks for speed workouts, in which I found a 500m running loop to do at one of them, and a 333m loop at the other. How did this become so easy? Let me show you this way:

A girl runner runs her 4K race in 16 minutes. This is 4 minutes/km pace.
A boy runner runs his 5K race in 20 minutes. This is also a 4 min/km pace.

If you go by minutes/mile here, you have the girl runner suggested to run at a 6:24/mile pace, and the boy runner suggested to run at a 6:27/mile pace.

So, now, try to break down a 6:24 pace and a 6:27 pace into their 500m suggested time splits.

Go ahead, I'll wait for you, do the conversions….

Are you done yet?

I wouldn't waste time in doing the math either…why? Because it's this easy if you have a GPS unit giving you kilometer measurements for a race that's held in kilometers:

A 4 minute/km pace is simply a 2 minute, 500m time to aim for. If you have your GPS watch, you simply look to see if you're reaching a "4:00/KM" pace on your watch's readouts. If the runners don't have one, you can simply tell them their paces during a trial. I'd do this with both my boys & girls squads, aiming to be the 'rabbit' of each bunch, going at the 4:00/km pace to gauge & adjust by.

Simply put, the measuring in kilometers & pacing oneself by minutes/kilometer readouts can cut through the clutter of minutes/mile to 5K pace conversions.

It seems to me that most runners have a mile-based chart for 5K, 10K, ½ marathon, and full marathon times that they go to, in order to find certain "zones" for their running. I haven't fully tossed mine out, but I hardly need it if I'm training seriously for a 5K and I can use a GPS watch to measure & track my progress.

I discovered many other secrets too, in using GPS training for runners specifically, using it to help athletes reach gains in performance up to 20% in less than the 12 weeks time of a cross-country season. I also used some unique workout circuits that implemented Kettlebell training into helping the athletes develop hip power & body control throughout a run. I have combined the best of both of these worlds, merging kettlebell workouts and GPS technology into one unique package at my site, http://KettleBolics.com. In 2005, I came out with a training guide called "Endure!", which deals specifically with applying GPS tech to today's runners & athletes. I recently added my Kettlebell training e-book, "KettleBolics" to this package. I created KettleBolics as an additional tool to help today's runners & athletes obtain simple increases in power through some basic kettlebell explosive lifts. In my opinion, using kettlebells is like gaining the benefits of hill training, stair training, and high-output sprints when you don't have a hill, a flight of stairs, or a track to sprint on in safe conditions.

You can discover this awesome combination of 'old school' training (kettlebells) and 'new school' training (GPS technology for speed training) at http://KettleBolics.com.

About the Author:

Coach Rick Karboviak is an avid runner of 5K's and is also a state champion in his age division in the 1600m, 400m, and 800m. He currently trains athletes from his home and keeps up to speed with the sports performance world his main training information site, http://ASAPWorkouts.com, and his running blog dedicated to distance-based interval training, http://1MileNation.com. Visit http://ASAPWorkouts.com for more informative articles & products from Coach Rick.