FRIENDS OF NVT

OFFICIAL NEWSLETTER OF INNEURACTIVE

INTRODUCTION

As the exhilarating world of sports continues to evolve, so do the tools and training methodologies designed to amplify performance. Every detail counts on the playing field, down to the minutest aspects of visual acuity and perception. In this month's issue, we dive deep into the intricate dance between visual acuity and distance, exploring how it varies across sports and the specialized training regimens that cater to each.

In our feature piece, we take a compelling look at "The Role of Distance in Sport-Specific NeuroVisual Training." Here, we navigate the playing fields of soccer, the close-combat zones of MMA, and other dynamic arenas, shedding light on how visual demands can differ starkly based on sport and position. Whether you're a dedicated NVT trainer or an athlete striving for that extra edge, there's much to glean from this exploration.

Furthermore, for those always seeking to up their game with cutting-edge tools, we have a special 'How To' segment focused on competing using the T-scope program. This innovative tool is revolutionizing the way we approach NeuroVisual Training, and we can't wait for you to delve into its intricacies.

Stay curious, stay informed, and most importantly, stay ahead of the curve with us. Together, we champion the marriage of sports, neuroscience, and strength & conditioning to elevate performance to unparalleled heights.

WHAT'S IN OUR LATEST ISSUE:

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The Role of Distance in Sports Specific NeuroVisual Training

Visual acuity is critical in sports performance as it determines how well an athlete can see at a certain distance. The relationship between visual acuity and distance is uniquely meaningful in sports that involve tracking moving objects or navigating a field in traffic. However, visual acuity for individual, non-ball sports is equally important, but the requirements are much different and demand specific training. For aspiring NVT trainers, understanding the role of distance in sport specific NVT is critical to elevating an athlete's performance.

When thinking about the game of soccer, players must see and process information at distances greater than 60 feet and sometimes less than 2 feet. With a professional field being around 130 yards long and 100 yards wide, players need to be able to scan and see the entire area clearly to assess their teammates, opponents, and the ball at varying distances.

We want to conduct training that works to expand the functional visual field of the soccer athlete. Using cornerstone drills like scanning saccades but setting up the sheets around 30-40 feet apart forces the athlete to turn their head much like they would in the run of play. You can set these sheets in a 360-degree manner to mimic the visual requirements of field players. Additionally, they need to clearly identify the alpha on the sheet which forces them to train acuity and processing at a distance relative to their position. By timing the drills, we can quantitatively track the training progression of the athlete's acuity when scanning the field.

Contrary to soccer, MMA athletes have acuity and depth perception demands within 6 feet to several inches in front of them. During standup exchanges, the athletes are anywhere from 1-6 feet apart, but during the ground game, they need to focus on their opponent's limbs at a very close range. This is typically around several inches to 2 feet in front of them.

Training an MMA fighter to be proficient in 20-foot scanning saccades might not be the best method nor the most applicable drill for them. You may want to consider Near / Far drills within the 6-1 feet ranges and or use the Dynavision Light Board with the T-Scope active to train eye discipline, peripheral processing, eye-hand coordination, and training near reactions. Depth perception at short range can help with speed estimation of punches and kicks.

When conducting NVT with athletes you must take into consideration the visual distance requirements of the sport, as well as the dynamism of those distances. Consider tennis distances compared to table-tennis distances. Akin to a strength coach, NeuroVisual trainers need to create drills that are craft specific if you want to see true performance enhancement. The strength and condition regiment of soccer players is different from that of MMA athletes.

Being able to NeuroVisually perform at different distances appropriate to the athlete's craft can be critical to their performance abilities. For example, speed estimation requires good distance vision and the ability to change that distance estimation divided by time ($\Delta d/t=v$). That will yield a speed determination. The speed of a ball or kick coming at you can be a critical calculation that takes practice and appropriate distance vision to perform.

Testing visual acuity early in the player development process can help you distinguish where training needs to focus. In the next issue, we'll do a "How To" on dynamic visual acuity tracking with saccades and a near / far overlay to express how granular and sport-specific we can make NVT.

"How To" – Gamify T-Scope Training in NVT

The T-scope, previously discussed in our FoNVT newsletter, offers a dynamic way of engaging with NeuroVisual Training (NVT). At its core, the T-scope flashes images, prompting individuals to recall details. This method aligns well with the objectives of NVT's third pillar. However, there's always room to elevate the experience. Let's explore how you can turn T-scope training into a fun and competitive game!

Basics of the T-Scope:

The T-scope hinges on the belief that our brain's capacity to process and recall visual data can be amplified with the right exercises. At its core, the T-scope employs a method of rapidly flashing images, compelling the viewer to harness their immediate visual perception. Many of these images integrate alphanumeric, combinations of letters and numbers, adding a layer of intricacy that challenges participants to swiftly discern and differentiate visual symbols.

In addition to the raw recall of the images, participants might occasionally encounter scripted questions about the content they've observed. These questions play a dual role: they gauge the depth of the viewer's attention and also fortify memory through active recall. The swiftness with which these images are presented is paramount; it ensures participants tap into their instinctual visual processing, refining the brain's spontaneous response to visual stimuli.

While the T-scope predominantly aligns with the third pillar of NVT, brain processing, it also intersects with other NVT objectives. These include honing attention span, boosting focus, and sharpening the brain's prowess in distinguishing relevant visual content from peripheral distractions. What sets the T-scope apart is its versatility. Its design allows for adaptations that cater to a spectrum of visual proficiency levels, rendering it invaluable for both novices and seasoned NVT enthusiasts.

Gamifying the T-Scope:

1. Team Play:
- Engage two to four players.
- Each participant takes turns to call out ONE fact from the image.
- The game continues back and forth until a winner emerges for that image.

2. The Bluffing Element:
- Players are allowed to bluff.
- If a participant suspects a bluff, they can challenge it.
- The original caller must then defend their fact, often by specifying its location on the screen.

3. Scoring:
- The person who recalls the most facts wins the image.
- Successfully challenging a bluff grants the challenger a win.
- If a challenger is wrong in their suspicion, they lose that round.

Training Benefits & Duration:

The deliberate pacing of the T-scope game, where participants have approximately 10 seconds to recall a detail, serves dual purposes. While on the surface it appears to be a rule, this time constraint is a strategic technique designed to prompt the brain to actively re-engage with and reprocess the image, thus deepening neural connections associated with visual memory. This method not only tests participants' recall abilities but significantly enhances them. Each attempt at recollection acts as a practice in the crucial act of retrieval, improving proficiency over time. Introducing bluffing into the mix adds a playful, strategic dimension, but its true value lies in its cognitive impact. A bluff challenge other to critically assess their own memories, prompting deeper

introspection and, in turn, more profound memory encoding. Furthermore, by repeating each T-scope image, participants get the opportunity to validate or revise their initial observations, reinforcing their visual memory and boosting their confidence in interpreting visual data. However, to avoid cognitive fatigue and ensure maximum training benefits, it's pivotal to strike a balance in the game's duration. We advocate for sessions comprising a concise set of 9, 11, or 13 images, ensuring participants remain attentive and engrossed without feeling overwhelmed. The overall winner is decided based on who wins the most rounds.

Why Gamify?

Gamification taps into our intrinsic love for challenges, competition, and achievement, transforming routine tasks into captivating experiences. In the context of the T-scope and NVT, integrating game elements boosts engagement and focus, leading to enhanced cognitive outcomes. When participants are motivated by scoring, competition, and the possibility of "winning", they're more likely to invest effort and attention, thereby optimizing the benefits of the training. Furthermore, games naturally foster repeated practice, which is crucial for reinforcing neural pathways and solidifying visual memory recall. By gamifying the T-scope experience, we harness the power of play to amplify the effectiveness of NVT. It's a win-win!

Conclusion:

The T-scope stands as a powerful tool in NVT. Through this game format, we can enhance engagement, focus, and recall abilities. Whether you're a seasoned NVT enthusiast or a newbie, this gamified approach promises an enriching and enjoyable experience.