Professionalism, Golf Coaching and a Master of Science Degree:

A Commentary

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INTRODUCTION

When I received the PGA National Teacher of the Year award in 1991, I was not aware of how important it was to take the brain's connection to learning into consideration. I have taken 90 hours of classes at Harvard's Connecting the Mind Brain to Education Institute, attended another 80 hours at Teaching with The Brain in Mind workshops, and been invited to studies at UCLA's Learning and Forgetting Laboratory run by Dr Robert Bjork. During the second half of my career, with a lot of help from award winning scientists and educators, I would become aware that 'teaching-fixing to get it right' environments give a lower return on the investment of time and resources than 'learning/developing' environments.

BRAIN COMPATIBLE APPROACHES TO LEARNING

By the mid-1970s, golf started moving in the direction of a culture that started to value expectations over experiences. The game was moving away from offering a wonderful pastime and going in the direction of a culture that was offering time filled with expectations, frustration and intimidation. The sport of golf has a culture that brings out ego driven expectations about how far the ball must go, low scores, perfect swings, perfect clubs, fixing unwanted outcomes, and the latest gadgets. These types of expectations create the kind of frustrations that are not growing the game. Individuals should be educated that it is possible to look forward to enjoying golf while improving, without the kind of frustration that causes golfers to play less or leave the game.

Brain-compatible approaches to learning join the art of teaching with the science of learning, which is where research demonstrates that we learn through trial and error adjustments. Brain-compatible approaches to learning are 'match makers,' blending new with prior information found in our non-conscious memory of both wanted and unwanted outcomes. In brain-compatible learning environments, unwanted outcomes are seen as valuable and necessary feedback for future reference and in no need of fixing. Efficient approaches to learning are more about protecting and developing natural skills and talent, than the negative steps of fixing anything. Students can only learn deeper conceptual understanding by actively participating in their own learning in ways that transform to real world skills; i.e., self-discovery and self-evaluation. Information supports brain-compatible learning when it:

- Has meaning to students
- Makes sense to students
- Can be related to a past experience
- Avoids too many details
- Does not cause frustration
- Is developmentally appropriate
- Is transferable to multiple contexts
- Creates more curiosity than stress
- Is process rather than outcome oriented
- · Is contextualized
- Does not create barriers to learning
- Is geared to the subject not a learning style
- Is presented in more than one way
- Is part of a story or metaphor
- Promotes self-discovery
- Supports self-confidence
- · Overcomes self-doubt

MISSION STATEMENT FOR IMPROVING LEARNING, TEACHING AND PERFORMING

- * Honor each individual and their choices
- * Promote self-reliance
- * Strive for personal growth
- * Support self-understanding and self-worth
- * Encourage the use of curiosity and imagination
- * Enhance what is already known
- * Provide a positive, emotional environment
- * Avoid negative judgments and corrections
- * Make students feel smart
- * Enhance observation skills
- * Promote seeing options
- * Work with broad concepts, the gist of things
- * Support the 'self' that is found in self-development, self-organization, self-essment, and self- discovery
- * Uncover ordinary things that produce extraordinary results
- * Enhance what already works, no one is broken in need of fixing

TRACKMAN

I have found the use of TrackMan does not fit with brain-compatible learning. The golf course conditions, not TrackMan, dictate what club to use, where to play the ball in the stance, what size swing to use, what speed to use, and where to align the golf swing's three employees (club shaft, head and face) through impact. The course is telling golfers what to do with the club, but not how to do it, which would not be brain compatible

Everything is influenced by the environment. Golf swings hit good shots when the club swing parallel to the angle the shaft was "designed "to occupy at address (i.e., swing 'on plane'). Also, to have the shaft swinging past the ball before the club head for most shots is a good thing, shafts are "designed" at the factory to be angled forward of the club head. The requirements of the golf swing are based on the "design "of the club and the requirements of

the shot you are about to play.

TrackMan promotes outcome goals, not the more useful process goals. In the entire history of golf, no golfer has faced the exact same shot or made the exact same swing. Golfers need flexible and portable golf swings, not consistent swings, for performing in everchanging real world environments. Great players are not consistent, but rather they have learned to handle inconsistency better than average players. If they shot consistent scores they would be average players. Inconsistency is nature's plan for development and survival.

TrackMan utilizes a system based on perfect numbers, or Iron Byron numbers. Expert models are best used to inspire us, not as models to be copied.

How do kids learn to estimate the speed of an oncoming car? Or how fast or slow they should walk to get across the street? They learn this information non-consciously, never having been told details or exact numbers. TrackMan promotes using details in the story. Tiger was right in line with how the brain best learns when he said that you can't get locked into hitting for numbers. The nature of learning wants a general or 'ball park' concept to learn from, the brain does not relate to details. When a child says 2+2 is 5, they should hear, "how did you get to that answer?" not, "Wrong answer". Brain compatible approaches to learning never bring up what is wrong, they pay attention to what is required, 'what to do' and without telling the student 'how to do it'.

Studies show bad 'habits' cannot be changed. From time to time they will show up again. Tour players do not hit 'new' bad shots, they all have a repeating tendency. The nature of learning wants you to develop something new without trying to fix an unwanted outcome. 'Fixing' is a waste of time according to the science of learning. A 30-handicapper is not broken or in need of fixing, they are on a journey of learning and development.

Perhaps the most undesirable location and time to provide a player with information is at a tournament. Studies show the expert's brain will revert back to its beginning stages when they start to consciously think about what they can already do, causing interference with reaching one's potential.

OTHER TEACHERS

Other teachers have said publicly that they have been influenced by my work, but I do not use TrackMan when coaching the swing, because it's not brain compatible for learning. I may be wrong, but I do not believe if they use TrackMan for golf swing instruction they are joining the art of teaching with the science of learning. I read a well-known teacher who was quoted as saying:

If I took a kid who is a really great player, really skilled, 12 years of age and I taught him everything about TrackMan, until he was 15, he'd never need a coach. If I said, 'Look, this is how you move it to the right, this is how you move it to the left. If it gets too steep, this is how you get it out of the ground, this is how you can hit farther, this is how you can hit it lower,' then he would just be able to find it in the dirt the way Ben Hogan did. And all the learning experts are saying that's where true learning is done. From just doing it. Trial and error. TrackMan tears down method-and-model instruction. [1]

Lowering or eliminating frustration and intimidation would help grow the game. I am not sure using TrackMan can accomplish that by putting forth all those numbers. TrackMan is an important tool for fitting clubs. According to the nature of learning and Cool Clubs, which is one of the best club-fitting companies in the world for tour players and amateurs, it should

be left at that. TrackMan is not a true trial and error approach to learning.

CONCLUSION

When TrackMan is used to make suggestions about the swing, it is not doing so in compliance with the brain's connection to experiencing meaningful motor skill learning. Fixing isn't learning, and when TrackMan is used to fix a swing and not to make suggestions about club fitting, it's not supporting meaningful learning.

Go train in a proactive way that emphasizes the use of the golf club: where you want the golf club shaft, head and face aligned as they swing through impact for the shot you are playing. Then - and this is critical - accept all outcomes, wanted and unwanted, and avoid what respected research has shown are negative acts of trying to fix body motions. Just picture what to do with the club and the body will follow.

REFERENCE

 Shackleford, G., Tool Time, Golf Digest, March 2014, http://www.golfdigest.com/golfworld/2014-03/gwartrackman-0310

EDITOR'S NOTE

Widely known as "the teacher's teacher" due to his key role in orchestrating the first PGA Teaching and Coaching Summit in 1988, Michael Hebron was the 24th PGA of America Master Professional and in 2013 he was enshrined in the PGA Hall of Fame. His book "See and Feel the Inside Move the Outside" was the first instruction book accepted as a PGA Master thesis and his latest book is "Play Golf to Learn". A PGA member since 1970, his students have ranged from beginners to major championship winners, and he has been a consultant on golf instruction for the PGAs of Canada, Finland, France, Italy, Japan, and Sweden.