

Skill development and Practice structure

- With
- Gordon Morrison PhD
- PGA Professional Vestfold
GK
- @golfgordon
- gordon@vgk.no



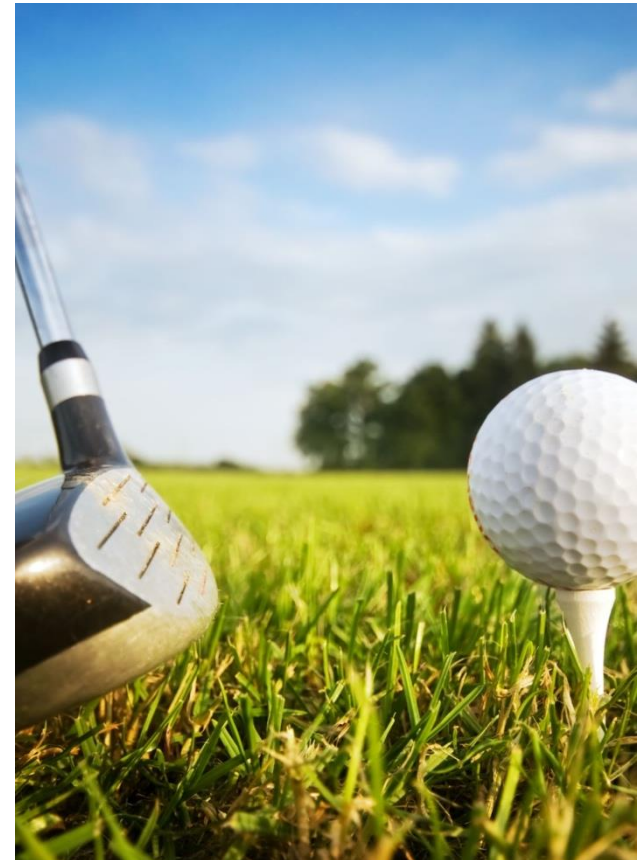
Gordon Morrison

- Full time coach since 2001 focused on: Technical & Skill development, Mental Skills Training and The Yips
- PhD Motor Control/ Sports Psychology
- Published research on chipping yips
- Why I became interested in Skill development and then the yips

Learning Outcomes

By the end of this session (2 parts):

- Understand how Motor learning principles apply to Golfers
- Training types- what are they and what are the main effects?
- How should we schedule practice?
- How difficult should practice be?
- Attentional focus for Golf – the whole story
- We will develop a set of principles that can be applied to golf.



Motor Learning

- Studies how people improve performance in tasks
- Is a permanent change in ability to perform a skill or task
- 2 main theories -
- Information processing
- Dynamic systems



The point of practice?

- To get better!!!
- To improve performance in training and transfer this to competition
- Usually, we get better at something if we practice...agreed?
- But...research suggests we only get better at exactly what we are practicing.
- **Principle 1: You get better at what you are practicing, so be careful what that is!**



Bad Practice???

- Yes!!...well I used to think yes
- No such thing...but what are we expecting to 'get' from certain kinds of training?
- Question?



Training- 3 basic types

- Training to maintain...
To keep what we have
- Training to learn...
Develop skill in a specific area
- Training to perform...
Focuses on the transfer of skills to competition



Training to maintain

- Practicing something we already know how to perform
- Very little can be learned with the lack of 'load'
- But....produces good feelings (e.g., confidence, motivation).
- E.g., 10 x 7 irons to a target
- Low demand on the motor system
- No load no gain!
- But we keep what we have

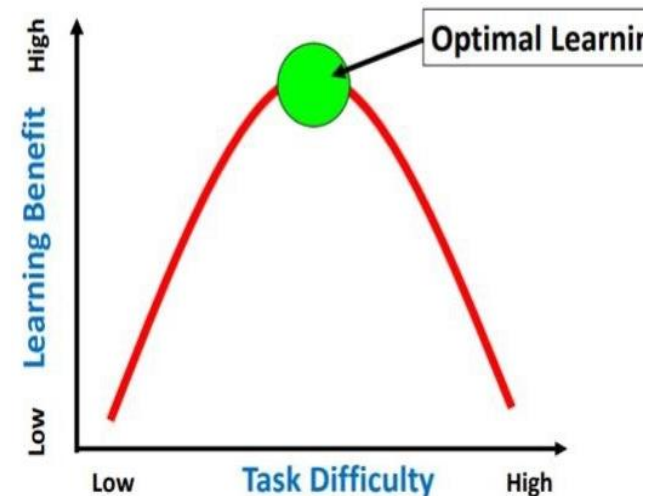


Training to learn

- Normally focuses on a specific skill that needs to 'grow' e.g., lag putting, shaping shots
- Level of challenge/difficulty seems important to maximize learning.
- According to challenge point theory, mistakes (30%) and success (70%) combine to maximize learning
- We need to make mistakes!
- **Principle 2: Remember to 'grow' we need a demand = supply!!!**



The Challenge Point Framework



Training to perform

- Transfer of skills is the main goal
- Realistic design means including as many aspects of the game as possible.
- Links to principles 1 and 2
- "Practice needs to be specific to the requirements in the actual game"
- Specific elements might include...?



The “Shot cycle” (this is the skill of golf!) Checklist for training to perform

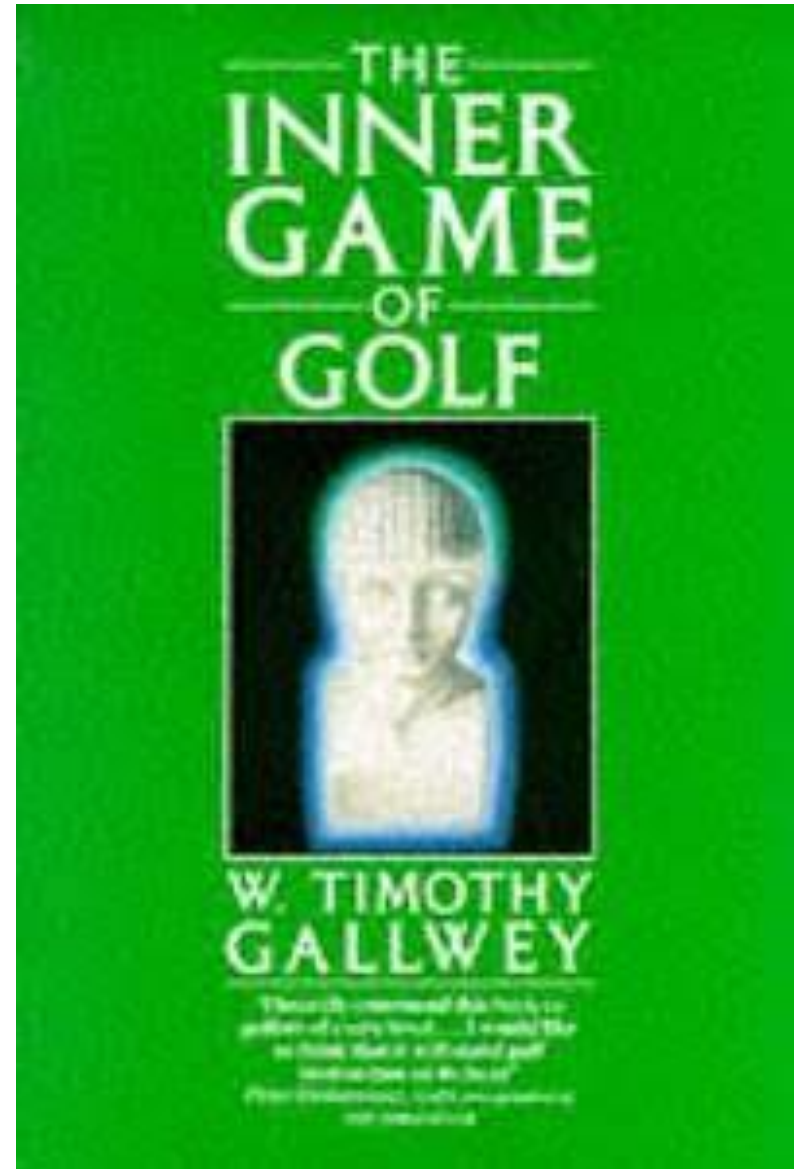


Gamification!!

- ‘Simulated challenges, simulated obstacles, simulated pressures- all of these are for the purpose of enjoyment and of learning better how to meet *real* challenges and overcome *real* obstacles in the presence of *real* pressure’

Gallwey (1981, p.228)

- **Principle 3: We get different outcomes from different kinds of training.**



Summary so far....

- **Principle 1: You get better at what you are practicing, so be careful what that is!**
- **Principle 2: Remember demand = supply, look for a good challenge point**
- **Principle 3: We get different outcomes from different kinds of training.**



Practice structure

- Blocked – Random
- Performance v learning
- Quantity of practice
- Biggest factor
- Spacing of sessions
- Learning occurs between
- Length of session
- Engagement & quality



Blocked v Random applied

- 8-foot putt
- 30x same spot
- 30x 'clock' style
- Results.....
- Same spot 57%
- Clock style 34%
- PGA Tour average 50%
- But...what do the results mean for these players?



Blocked to Random lies on a continuum



Blocked

Varied

Random

Same skill

Same skill with variation

Different skill

7 iron normal

7 iron different shapes

Playing golf

Blocked Practice research suggests...

- Performance is good but limited learning (i.e., transfer)
- Performer skips parts that are good for learning. E.g., information, decisions, readying. Brain "sleeps"
- Only improves exactly what the performer is doing.
- Can be good for confidence
- Useful when making technical changes



Research about random practice suggests...

- Performer is forced to re-think & re-set every time
- More brain activity especially in the planning phase
- Performer compares the differences between performances and ‘learns’
- Performers develop more **adaptability** to novel situations
- They can “work things out”



Why do people still ignore this research?

- Obsessed with quantity?
- But research says quality is best
- Convenience...not always the best for us!
- Practice swings are hard work?
- Example set by Tour players is usually not good 😞
- Easier to pour out a pile of balls and pitch to a green or 'scrape and hit'



Principle 4:

- **Variation reduces performance but increases learning**
- **Added to....**
- **Principle 1: You get better at what you are practicing, so be careful what that is!**
- **Principle 2: Remember demand = supply, look for a good challenge point**
- **Principle 3: We get different outcomes from different kinds of training.**

Focus of attention

- Internal- Focus on body
- External- Focus outside body
- External produces better results than internal, and the further away it is the better.
- Why????
- Think practically!!!! Artist/Sculptor
- Less conscious thought is used to direct our own body...'Automatic pilot'
- It is always better for everyone??
- No, experimentation is needed for each individual.



Principle 5

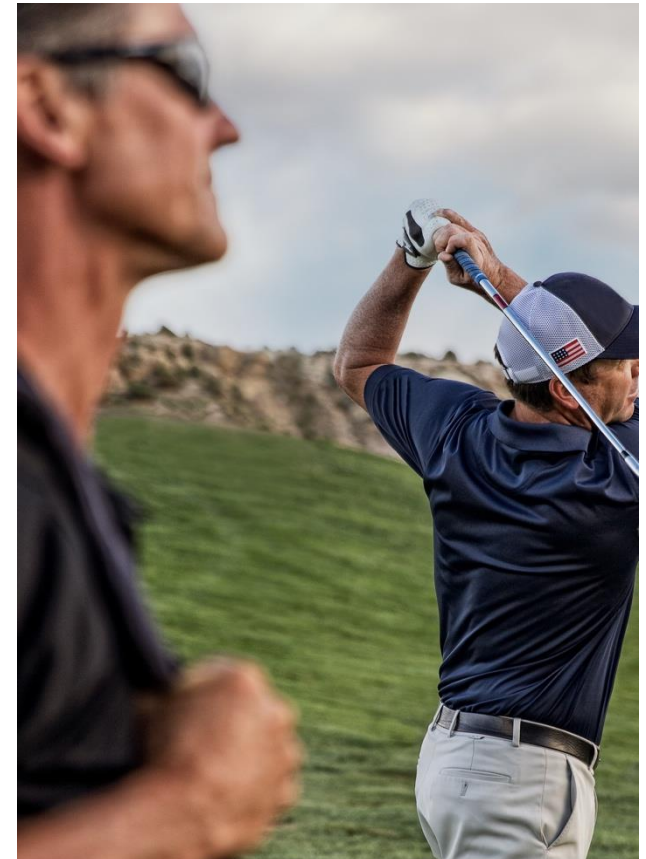
- **Focus of attention can affect performance and learning**
- **Added to...**
- **Principle 1: You get better at what you are practicing, so be careful what that is!**
- **Principle 2: Remember demand = supply, look for a good challenge point**
- **Principle 3: We get different outcomes from different kinds of training.**
- **Principle 4: Variation increases learning but decreases performance**

SAFE!

Skill Acquisiton Framework for Excellence

Williams & Hodges (2023)

1. Find a balance between performance & learning
2. Focus on quality not quantity
3. Create practice conditions that are specific to competition
4. **Think about the individual and how they respond to the above**
5. **As a coach...don't dictate! Work together with the player to get the best mixture of training types**



Principles summary

- 1. You get better at what you are practicing, so be careful what that is!**
- 2. Remember demand = supply, look for a good challenge point**
- 3. We get different outcomes from different kinds of training.**
- 4. Variation increases learning but decreases performance**
- 5. Focus of attention can affect performance and learning**
- 6. Be flexible! Work with the player to optimize learning**

Questions?



Training to perform example

- Constraints can be used to place a demand on the performer
- The miss the green 9 hole challenge
- Miss the green in regulation on purpose, +1 for hitting the green and drop off the green 5 meters if you do
- Demands good knowledge of where to miss
- You have to play as aggressively as you can!
- You have to grind!
- Shoot as low as possible

