



Deliberate and Purposeful Practice: If it doesn't challenge you, it doesn't change you

By: Lon Bartel

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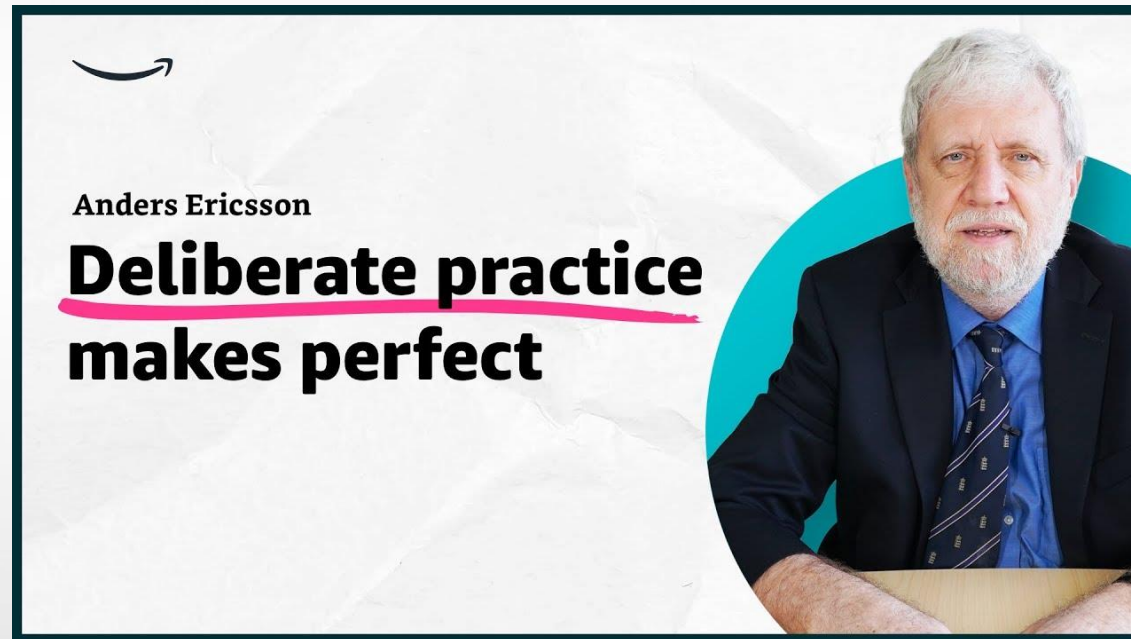
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Deliberate and Purposeful Practice

- Anders Ericsson- “The Role of Deliberate Practice in the Acquisition of Expert Performance” (1996)
 - > “People believe that because **expert** performance is qualitatively different from **normal** performance the expert performer must be endowed with characteristics qualitatively different from those of normal adults (**born with it**). This view has discouraged scientists from systematically examining expert performers and accounting for their performance in terms of the laws and principles of general psychology.”

Anders Ericsson

- “We agree that **expert performance** is qualitatively different from normal performance, and even that expert performers have characteristics and abilities that are **qualitatively different** from or at least outside the range of those of normal adults.”



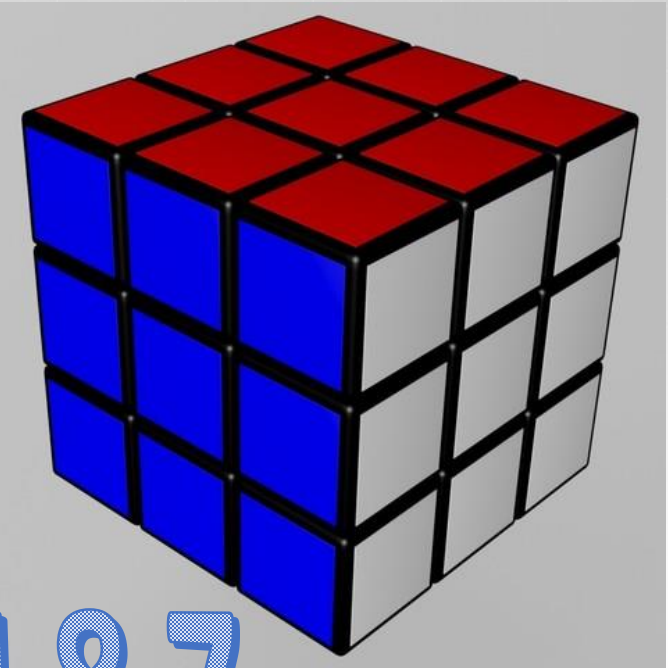


Anders Ericsson

- “We deny that these differences are immutable, that is, due to innate talent. Only a few exceptions, most notably height, are genetically prescribed. Instead, we argue that the differences between expert performers and normal adults reflect a life-long period of **deliberate effort to improve performance** in a specific domain.

Experts are experts at a given domain, why?

- They become experts at practicing effectively in the given domain
- It is not because they are “born with it”
- How you practice is critical
- How long you stay at it is what limits or supports your ability



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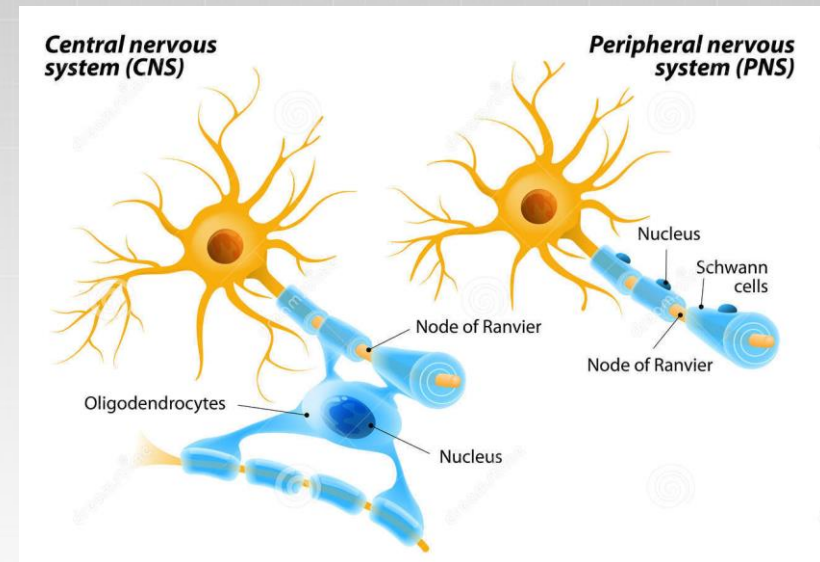
Big Lies

- Practice makes perfect!
- He/she is excellent because he/she is gifted!
- It takes 10,000 hours to be an expert!



Practice Makes Perfect - Big Lie!

- No, practice makes permanent!
 - > Myelination
 - > Fires together, wires together
- Shooting two boxes of 9mm handgun rounds (100 shots fired)
 - > 50 bad trigger presses + 50 good trigger presses = 100 empty shell cases
 - > No real net performance gain



How you practice is critical

- Rote practice- Doesn't work
- Analogy- Exercise
 - > On a treadmill
 - 3 days a week for
 - 30 minutes a day
 - 4 mph with zero incline
 - > Initially when you start there is an improvement
 - > After about a month there is no more improvement...why?
 - Adaptation occurs
 - New demand is needed...if it doesn't challenge you, it doesn't change you!

Excellence because of gifts/talent-Big lie!

- Anders Ericsson's work showed that it was rarely genetics that allowed for expertise
- There are areas that can provide advantages
 - > Height
 - > Limb length
 - > Visual acuity
 - > Tendon insertion points
- But they don't make one an expert

“I know kids that were natural talents, now they are pros”

- It is highly probable that these “natural talents” that displayed early affinity were encouraged by positive feedback by peers, coaches, parents
 - > This will motivate us to keep going.
 - > If we keep going we can gain expertise
- Late bloomers can flourish and become experts as well.

Natural Talent - IQ

- IQ is often looked at as a predictor for success in a given domain
 - > “Chess is for those smart guys”
 - > “Musicians are brilliant”
- The relation of IQ to exceptional performance is rather weak in many domains, including music (Shuter-Dyson, 1982) and chess (Doll & Mayr, 1987)

Correlation - What does “r” mean?

- Correlation is symbolized as an “r” value
- It is a relationship
 - > Can be strong
 - > Can be weak
 - > May not exist at all
 - > Can be positive or negative
- Understanding correlation scale (r= 0 to 1)
 - > $\pm .4$ or lower is considered weak
 - > $\pm .5$ -.8 medium
 - > $\pm .8$ or more strong

“The Role of Deliberate Practice in the Acquisition of Expert Performance”

- “In a review of more than one hundred studies, Ghiselli (1966) found the average correlation between success-on-the-job measuring and aptitude-test scores to be 0.19.”
- “Aptitude tests can predict performance immediately after training with an average correlation of 0.3, but the correlation between performance after training and final performance on the job is only about 0.2 (Ghiselli, 1966)”
- Understanding correlation scale ($r = 0$ to 1)
 - > $\pm .4$ or lower is considered weak
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Those smart guys/gals

- Research has shown the correlation between occupational success and ability measurements to be low
 - > Scientists, engineers and medical doctors
 - > Complete the required education and training
 - > The correlations between ability measures and occupational success are only around 0.2, accounting for only 4% of the variance (Baird, 1985).

10,000 hours = Expertise - Big Lie!

- Malcolm Gladwell in his book “Outliers” makes the claim that it takes 10,000 hours to be an expert.
- Anders Ericsson has repeatedly stated Gladwell didn’t get it right
 - > Simplified
 - Some things could be more
 - Some things are definitely less
 - > Rounded times up
 - > How one practices is key!

Steps to Implementation

MAKE MOTIVATION

01

SET SPECS (GOALS)

02

REQUIRE RECOVERY

06

UTILIZE THE UNCOMFORTABLE

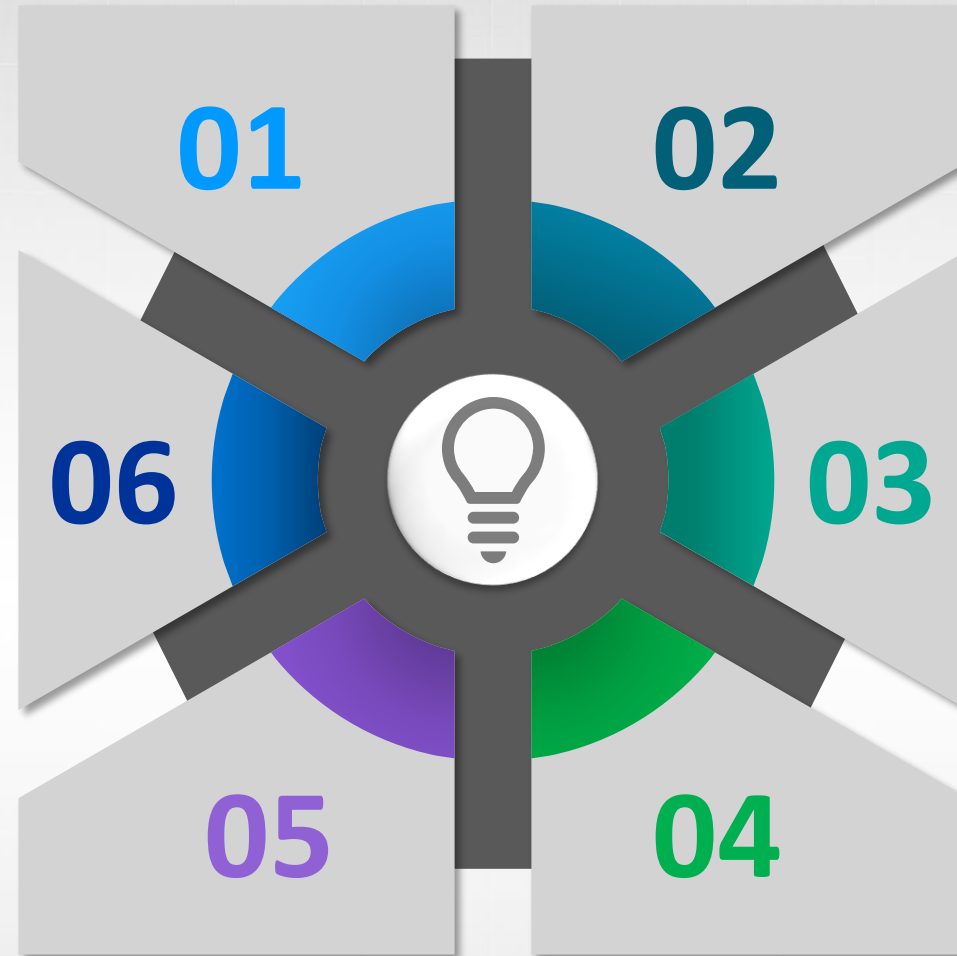
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FIND FEEDBACK

05

REGULAR ROUTINE

04



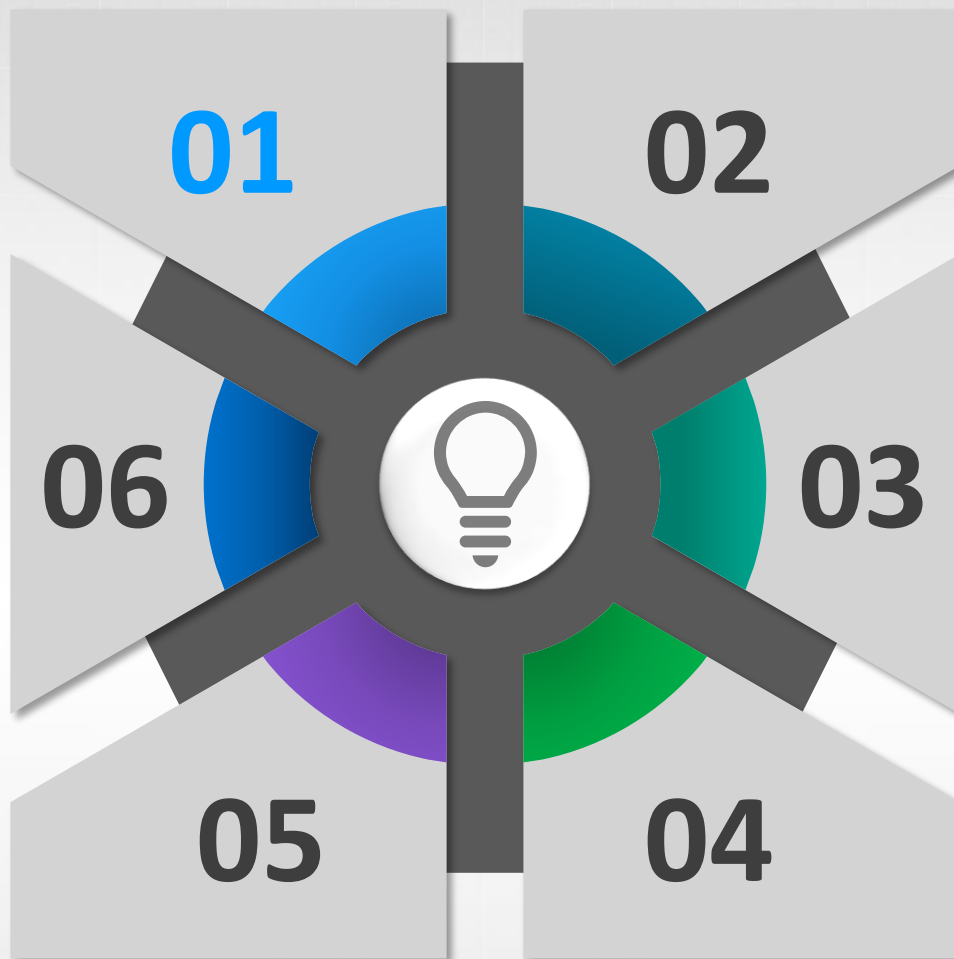
Steps to Implementation

MAKE MOTIVATION

- Motivation is required
- People need to establish their own reason to take part
- Intrinsic value

REQUIRE RECOVERY

FIND FEEDBACK



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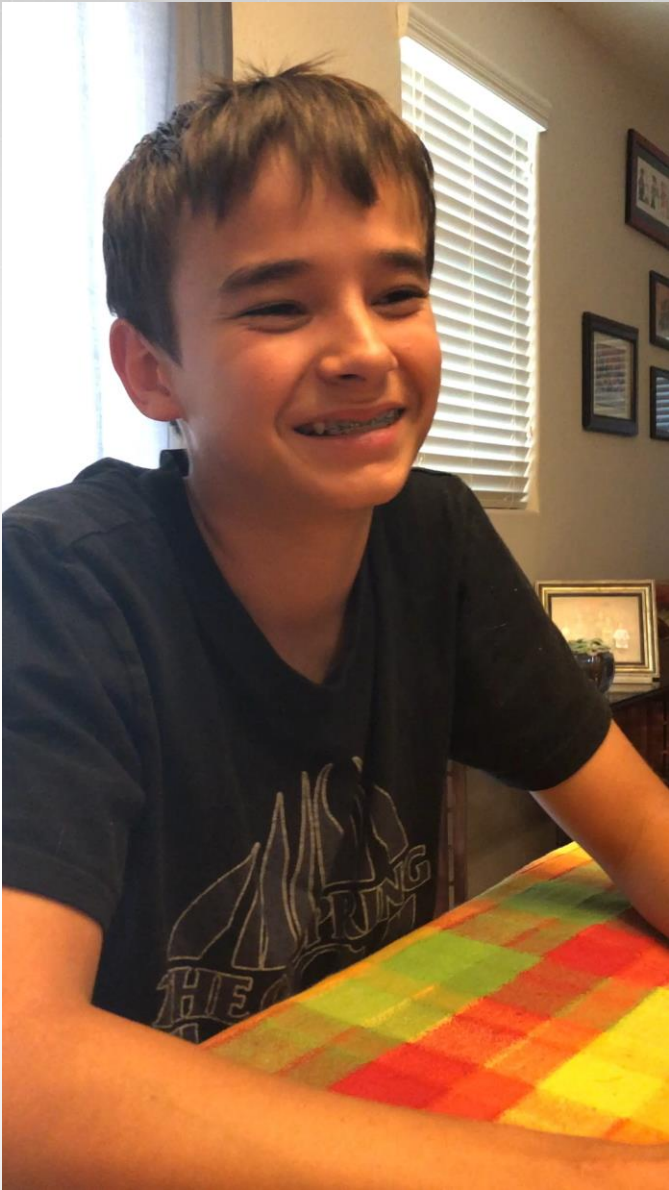
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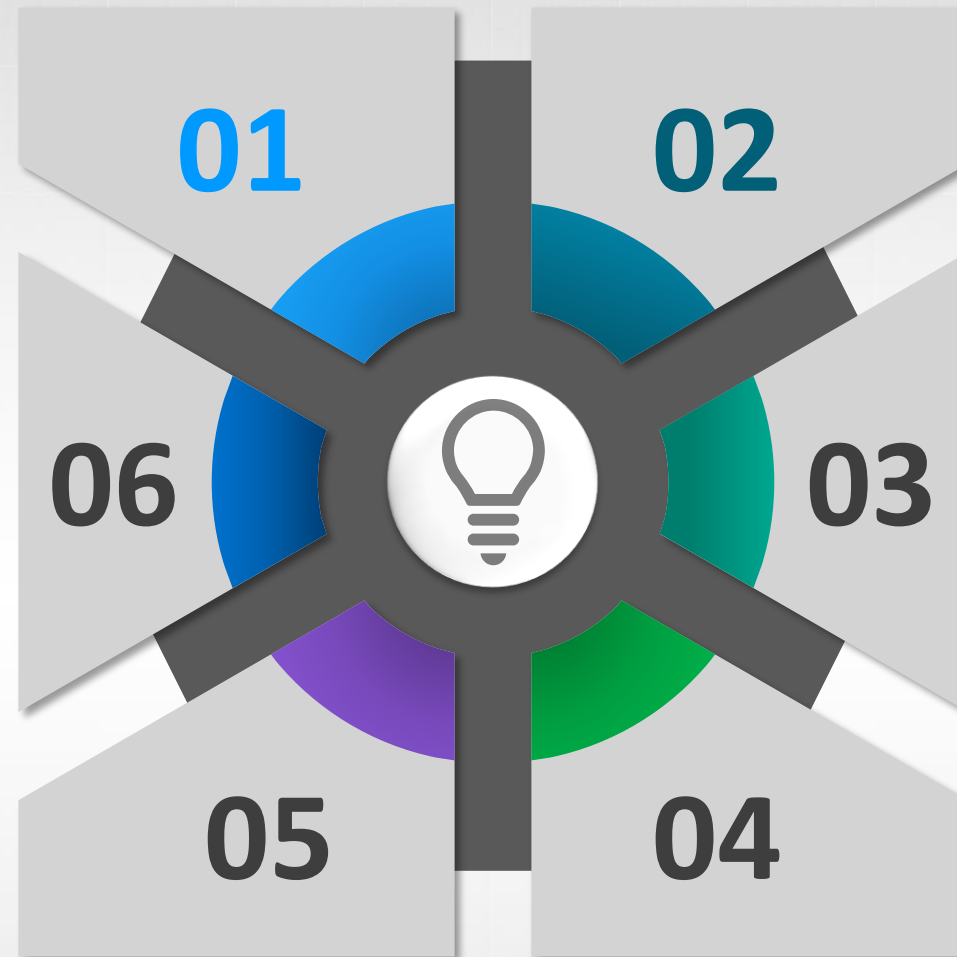
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SET SPECS (GOALS)

- Goals have to be established
- They have to be measurable, and obtainable
- Well defined and specific goals
- Without specific goals you have nothing to move toward

UTILIZE THE UNCOMFORTABLE

REGULAR ROUTINE

Specific Specs - Goals

- Goals have to be established
- They have to be:
 - Measurable
 - Obtainable
 - Well defined and specific goals
- Without specific goals you have nothing to move toward
 - “I will be able to draw and fire 1 round at 7 yards in 1.75 seconds”
- Long term and short term

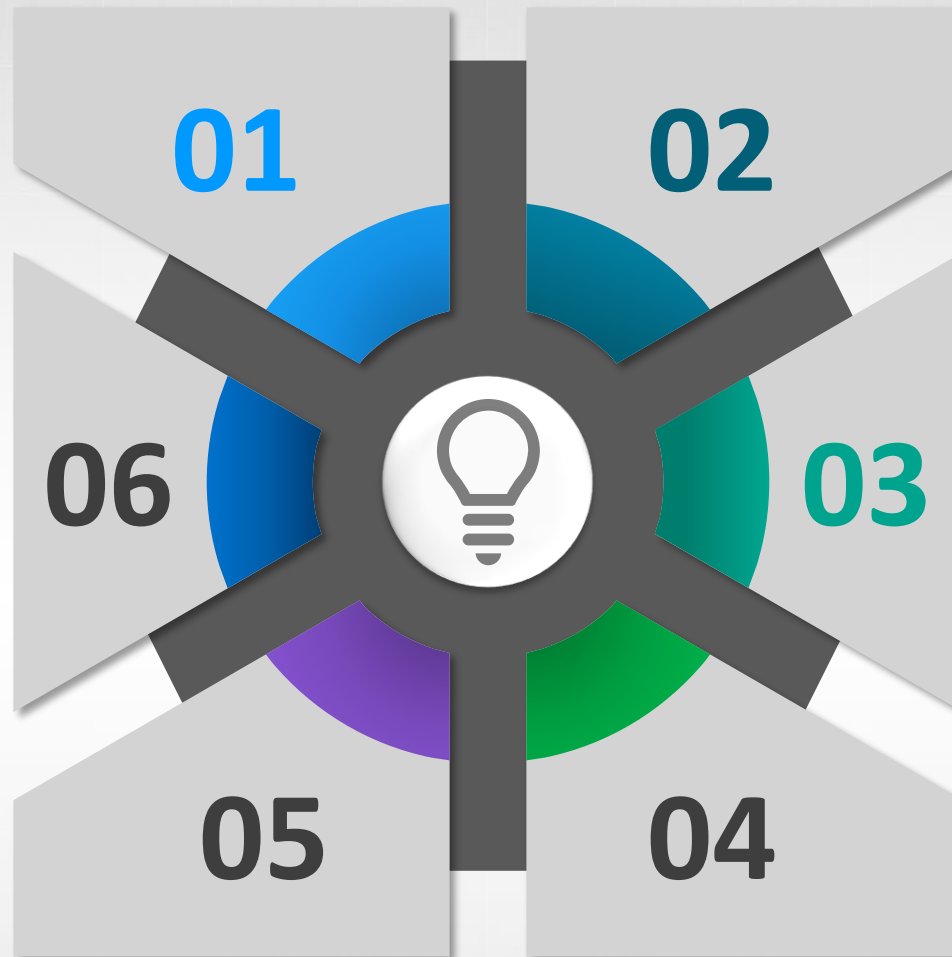
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UTILIZE THE UNCOMFORTABLE

If it doesn't challenge you it doesn't change you

- We grow when we are challenged
 - New books
 - Exercise

REGULAR ROUTINE

Utilize the Uncomfortable

- **If it doesn't challenge you, it doesn't change you!**
- When we are challenged we grow
 - New books
 - Exercise
- “If you do what you always did, you will get what you always got”
 - Treadmill
 - Reading the same book

Utilize the Uncomfortable

- If you are in your comfort zone you are wrong-
 - > Get comfortable with the uncomfortable
 - > “Embrace the suck!”
 - > Use it!
- If it was easy everyone would do it!

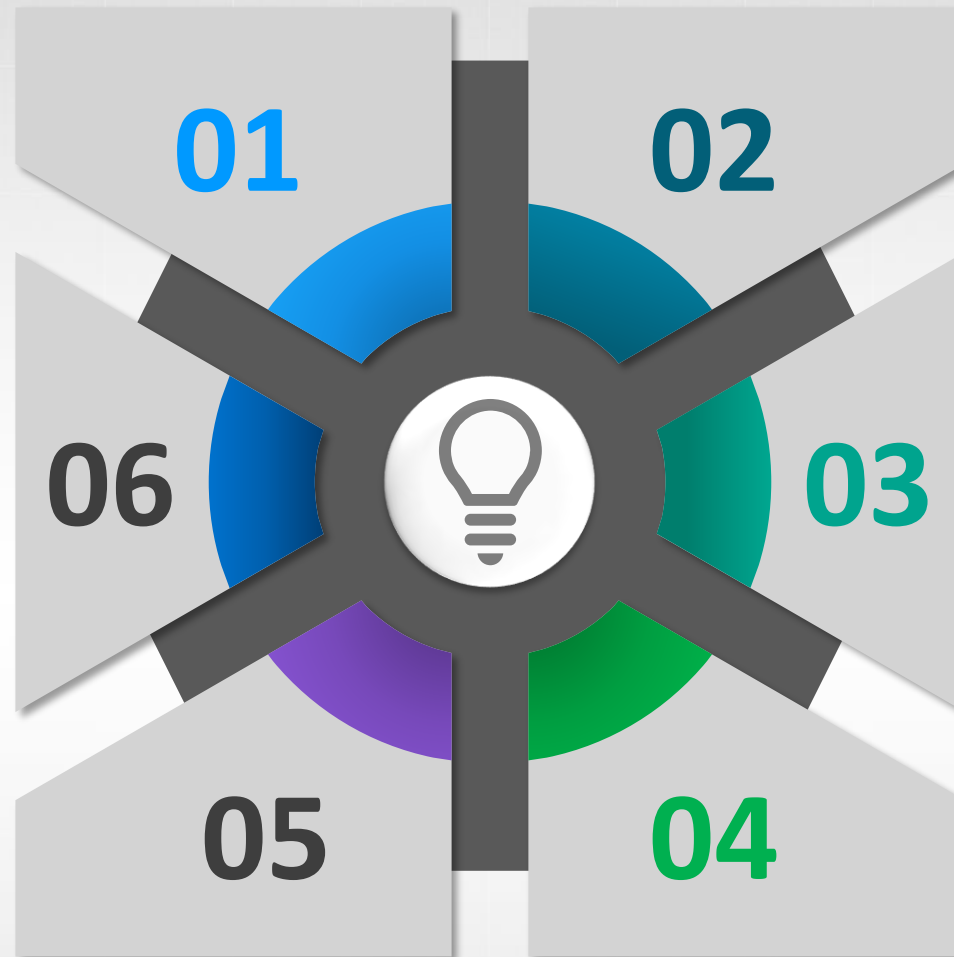
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REGULAR ROUTINE

People will want to blow off training-this is the time it is most critical

- You will hit stagnation/plateau
- No growth or improvement is demotivating



Regular Routine

- People will want to blow off training - this is the time it is most critical
 - You will hit stagnation/plateau
 - No growth/improvement is demotivating
- Frequent daily practice of dedicated focus provides the greatest results

Steps to Implementation

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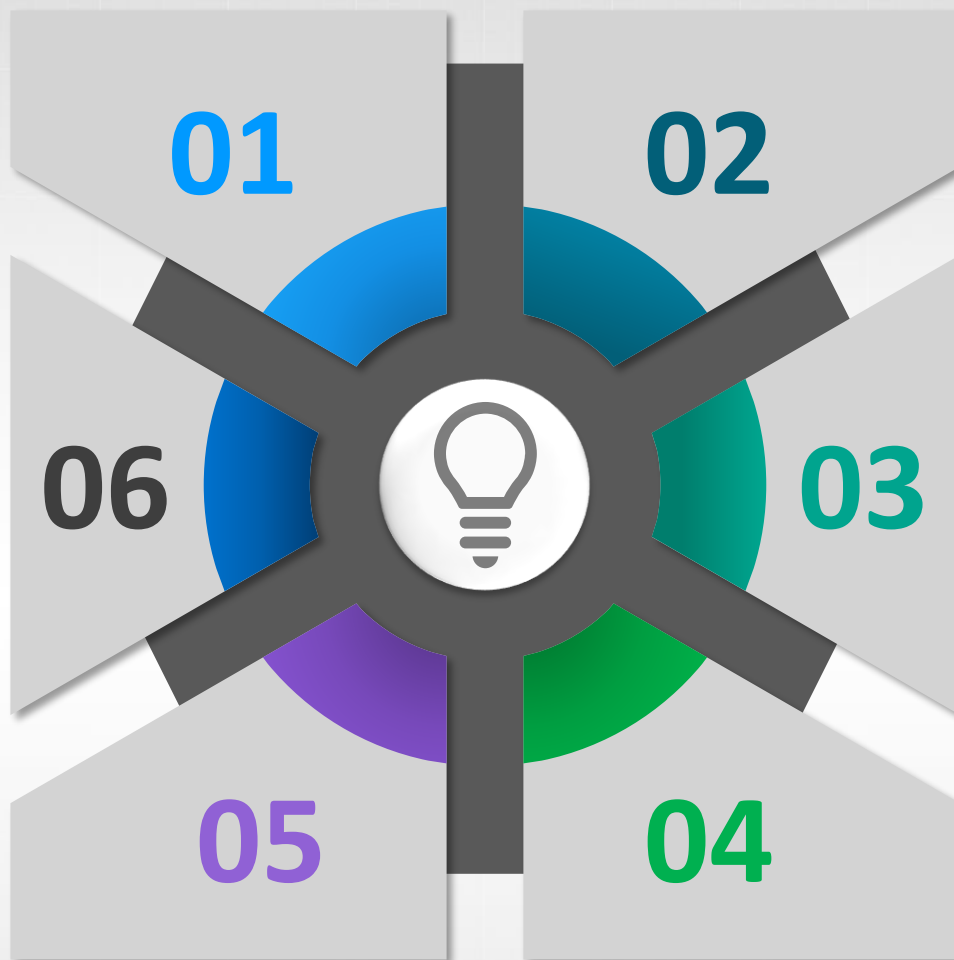
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FIND FEEDBACK

Without feedback, how do you know how to improve?

- Types of feedback include coaches, video, performance



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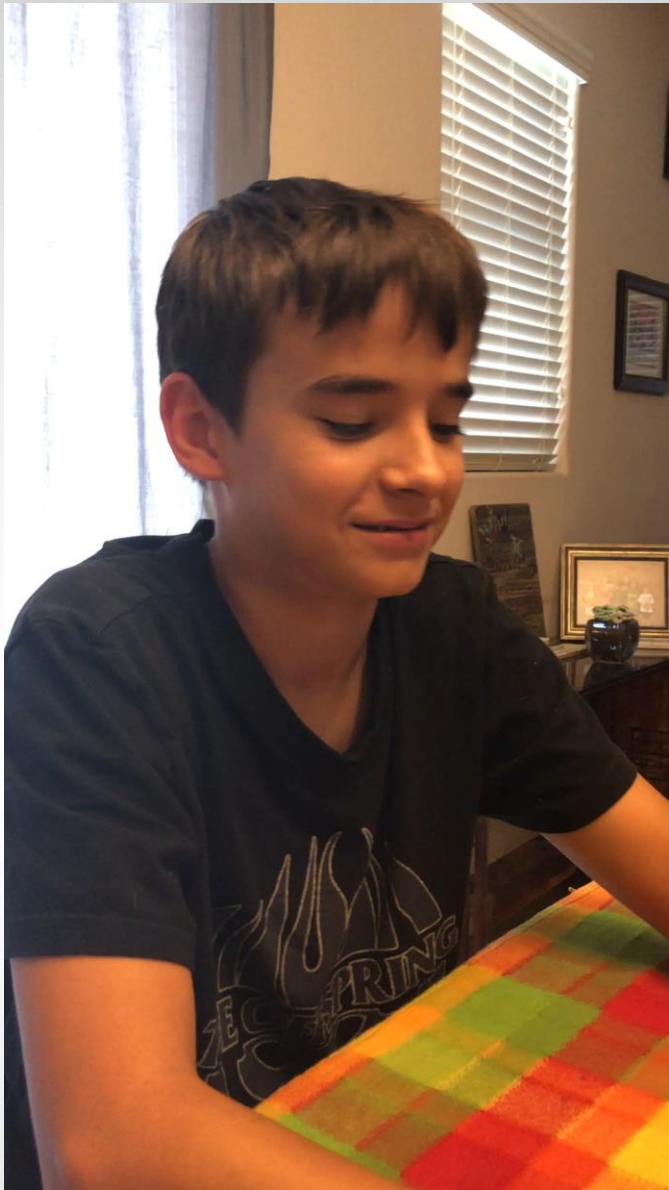
Find Feedback

- Without feedback, how do you know how to improve?
- How close are you to the goal?
- Types of feedback include:
 - Coaches
 - Video
 - Performance



Find Feedback

- In the absence of adequate feedback, efficient learning is impossible and improvement only minimal even for highly motivated subjects. (Ericsson, Krampe and Tesch-Romer, 1993)
- Rote repetition of an activity will not automatically lead to improvement in, especially, accuracy of performance (Trowbridge & Cason, 1932)



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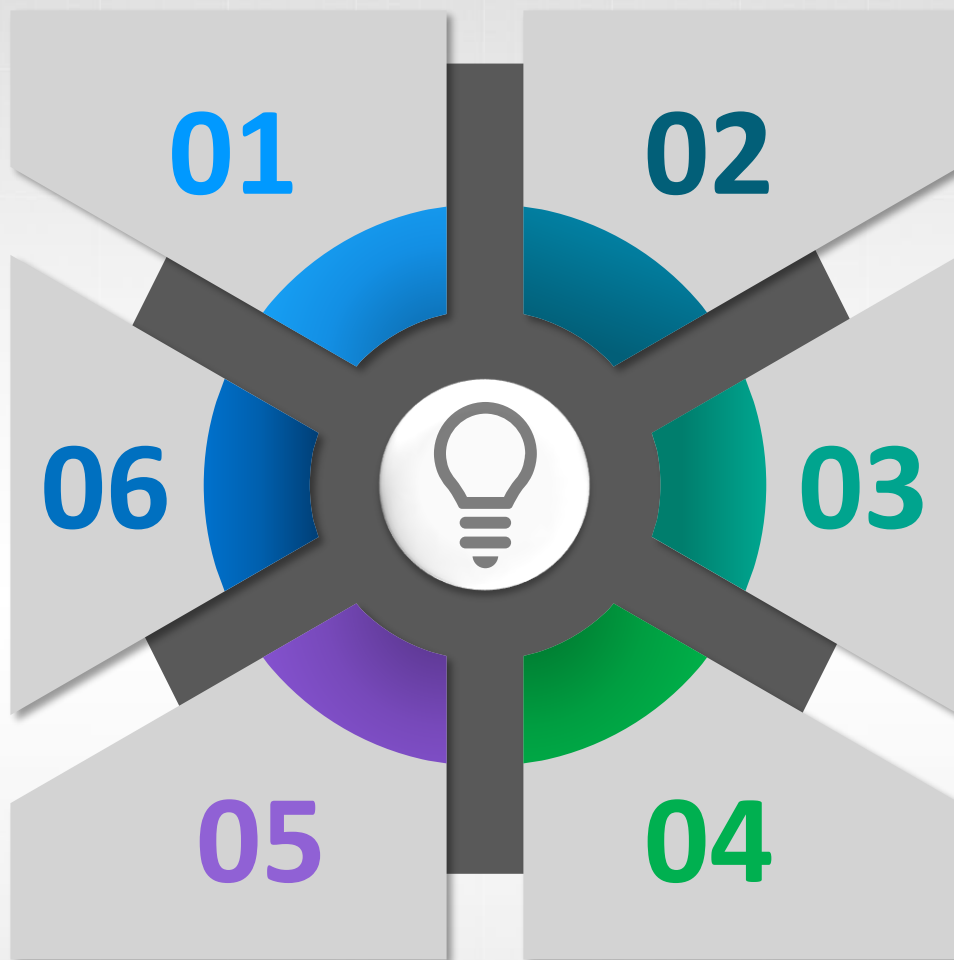
REQUIRE RECOVERY

- Max effort requires max recovery
- Rest is critical for the brain and neural pathways to be consolidated

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Require Recovery

- Max effort requires max recovery!
- Rest is critical for the brain and neural pathways to be consolidated
- Like the body, the brain needs to rest - consolidation

The Practice Session

- No more than 1 hour - max focus! (for most)
 - > Take extended break after 1 hour
- 100% effort for less time > 80% effort for more time



How fast is fast?



F3 Cycle-In the session

- The practice session can be clarified to be a progressive cycle of the **3 F's**
 - > **F**ocus
 - > **F**eedback
 - > **F**ix
 - > ***F**requency
- This is the structure of what each practice session should consist of



Focus

- This is dedicated, mindful, directed focus at the performance
- It is **NOT**
 - > Go through the motion
 - > Rote behavior
 - > Passive participation
 - > EASY!



Feedback

- Feedback is critical
- Feedback can come from multiple sources
 - > Self
 - Recording
 - > Expert in the field
 - Coach
 - > Performance measures
 - Timer
 - Steel target



Fix

- Establish corrective action
- Implement changes
- Sometimes progress means taking a step back

Frequency

- Anders Ericson's work showed
 - > Highest improvement of performance and highest attainment associated with the largest weekly amounts of deliberate practice
 - > Elite performers are consistent with their daily practice
 - > Practice should be limited duration - max effort and focus is hard to sustain
- You can get a lot with a little if it is consistent



Efforts of Experts

- Introduction via play (first steps)
- Interest/motivation
- Practice
- Lessons from coach or experts
- Practice Structure
 - > Practice before play or leisure
 - > Plan around plateaus
 - > Consistent
- Well defined goals
- Near max effort- not comfortable

More on Motivation

- Two ways to assist motivation when it gets hard*
 - > Strengthen the reasons to keep going
 - > Weaken the reasons to quit

- Eddie O'Connor, "Deliberative Practice: Essential for Experts", The Psychology of Performance: How to be Your Best in Life. Amazon Digital Service 2017.

More on Motivation-strengthen reasons

- Strengthen reasons to keep going
 - > Everyone wants to be the best
 - > Everyone wants to get better
- Commitment to the group- Aerobics classes

- Is that enough?

More on Motivation-weaken reason to quit

- Weaken the reasons to quit!
 - > High value!
 - > Reasons people quit
 - Fear of failure
 - Fear of success
 - Laziness
 - Failing to believe in self
 - Weakness- challenge this even if we don't succeed at first
 - Frustration- fail forward!!!!
 - > Where is your mental focus?

You will hit a plateau!



Plateaus - Find new and different solutions

- This is where the experimentation occurs
- This is where consulting with other experts occurs
- These can be “reframed” to be a positive opportunity for play
 - > Have fun with it to avoid burnout.

Plateaus- Find new and different solutions

- Examples for LE

- > Firearms

- Spend time feeling the weapon recoil
 - Create smaller acceptable error rates that require slowing down
 - Talk your way through the performance....out loud
 - Go faster while tracking any shots that don't break where they should

- > Arrest and Control

- Train support hand weapon manipulations
 - Talk your way through the performance....out loud
 - Fight against someone faster, stronger, better than you are



Review

- Make Motivation
- Specific Specs (goals)
- Utilize Uncomfortable
- Regular Routine
- Find Feedback
- Require Recovery



The 3 F's

- > Focus
- > Feedback
- > Fix
- > *Frequency

