

## ***Disclaimer***

*The techniques shown here have been compiled from experienced sources believed to be reliable and to represent the best current opinions on driving on track. But they are advisory only. Driving at speed at Watkins Glen, or any other track, requires skill, judgment and experience. These techniques assume the reader has high performance driving knowledge and applies them as applicable to their level of driving experience.*

*High-performance driving can be very dangerous, carries inherent risks and may result in injury or death. NNJR and PCA make no warranty, guarantee or representations as to the absolute correctness or sufficiency of any representation contained herein. Nor can it be assumed that all acceptable safety measures are contained herein or that other or additional measures may not be required under particular or exceptional conditions or circumstances.*

# Trackside Classroom

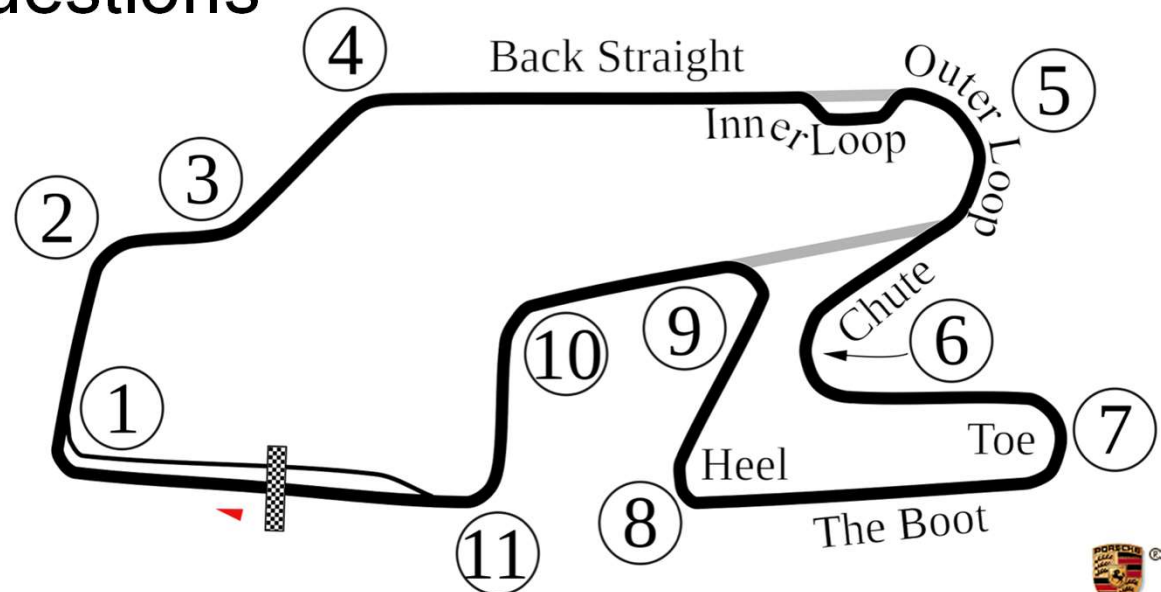
*How to Learn Faster...Improve Faster*



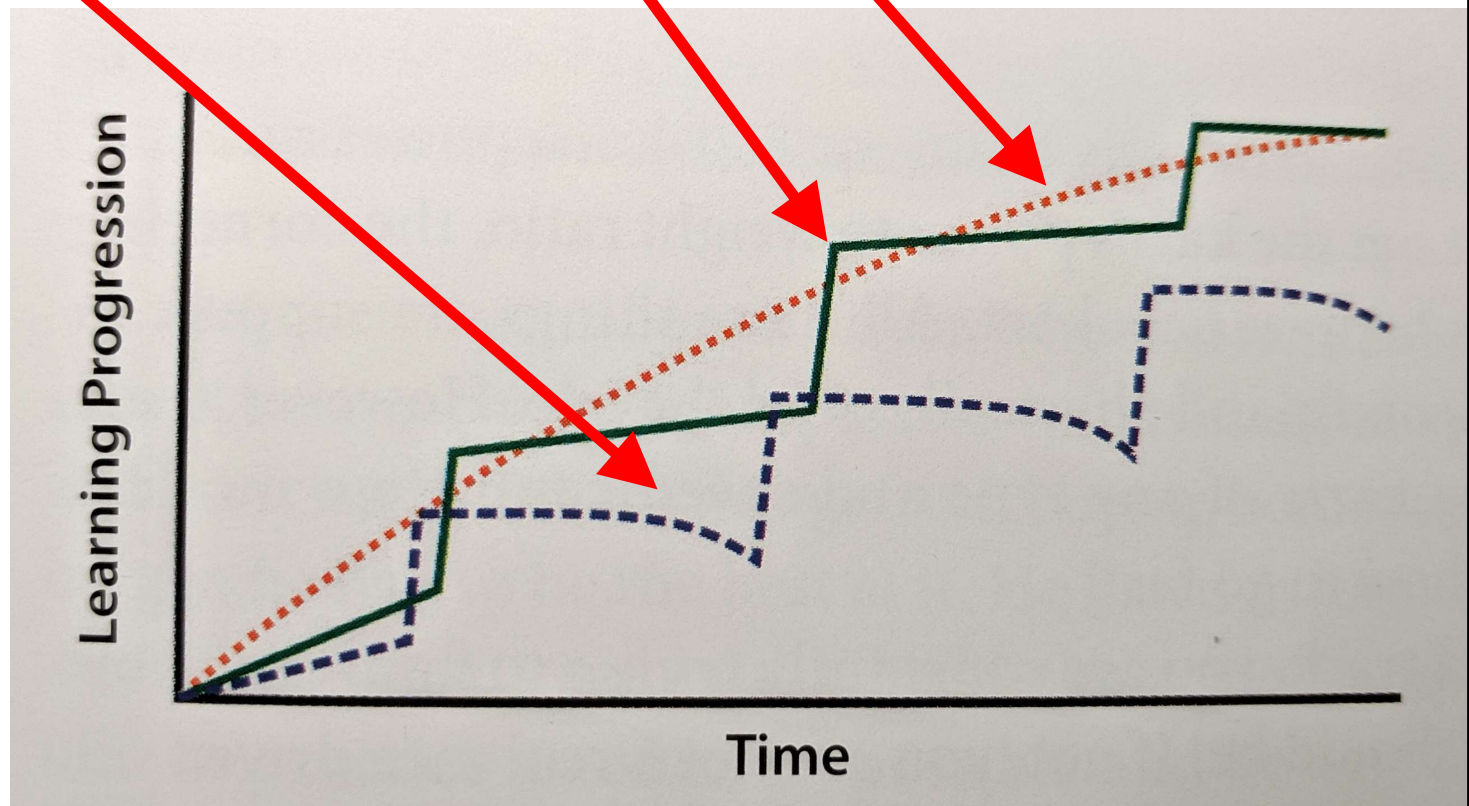
*"The best drivers have a burning desire to learn more.  
They're learning sponges."*

*--Ross Bentley*

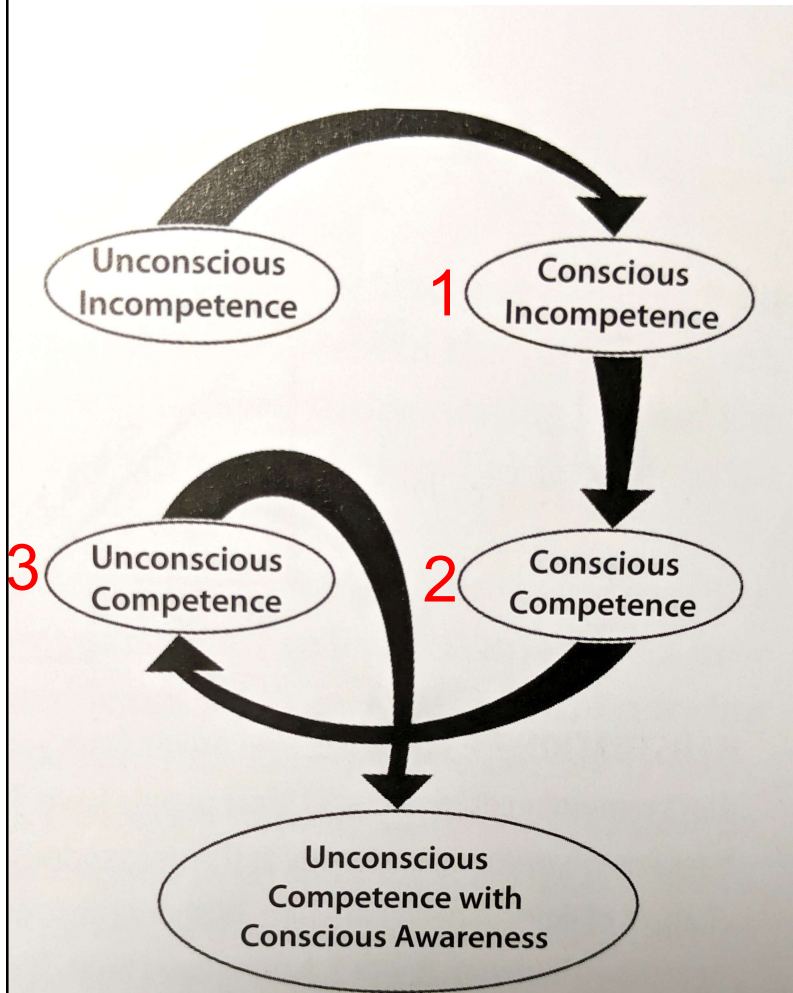
- Learning High Performance Driving
  - How do we learn?
  - What to learn?
  - How to improve learning
  - How to avoid getting “stuck” (Plateau)
  
- Watkins Glen Questions



- Theoretical “Learning Curve”
- Typical Learning Pattern
- “Plateau”



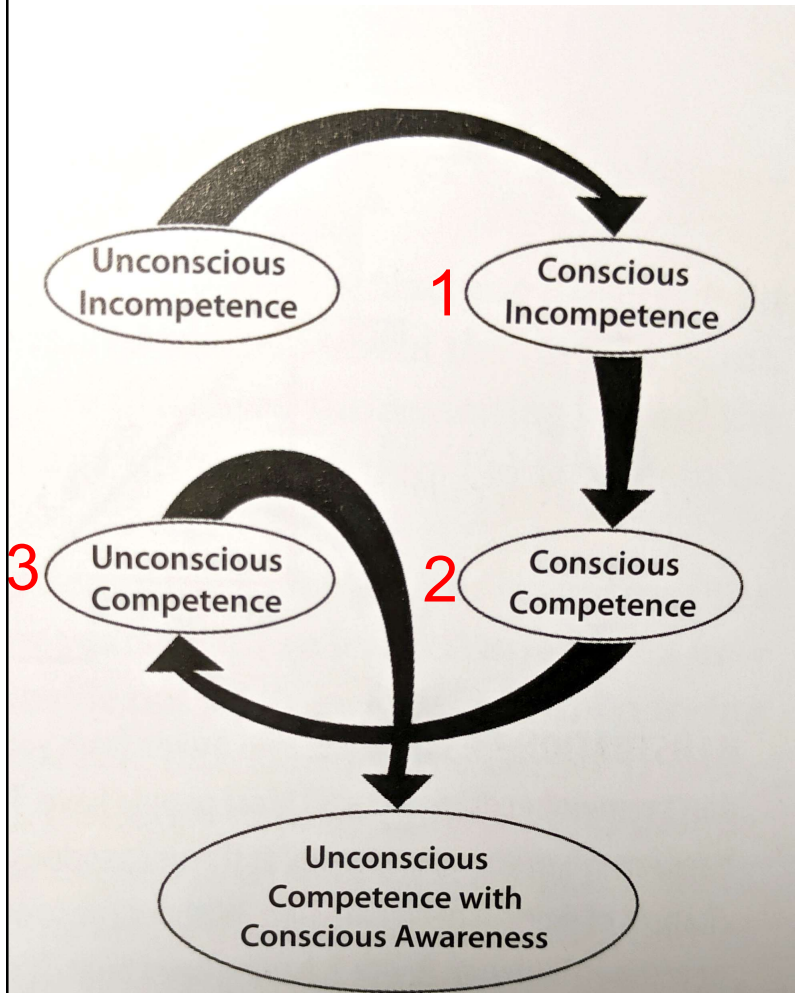
# NNJR Learning Steps



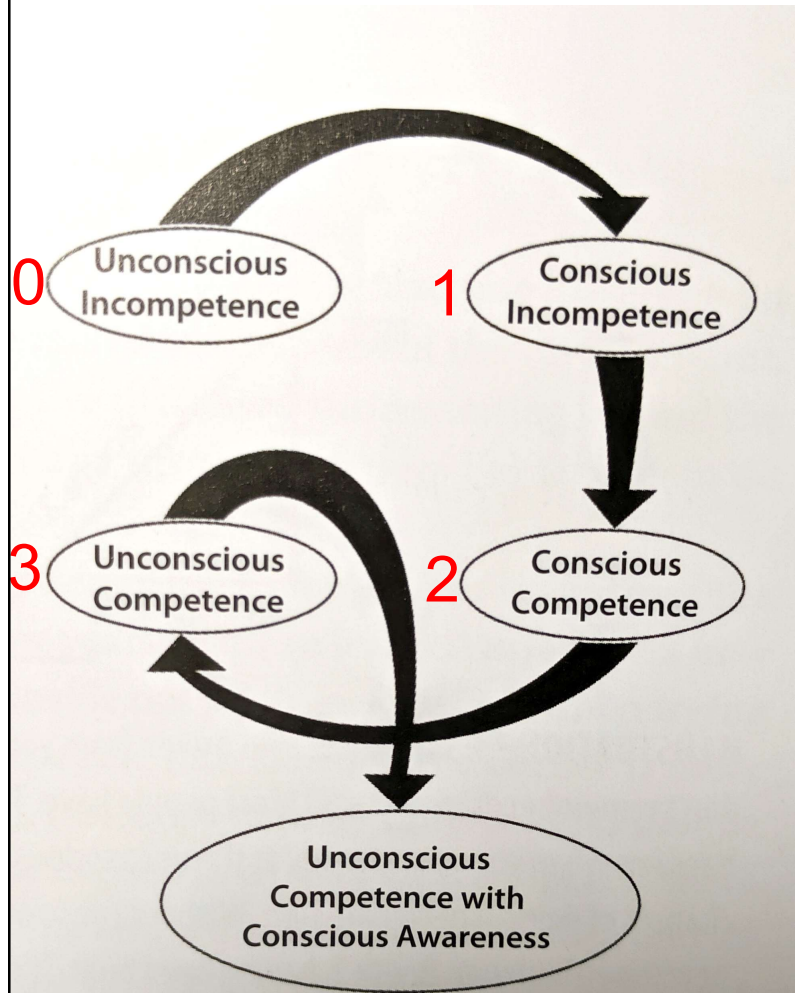
1. Try riding a bike the first time  
And the second, and the third time...
2. Balance the bike while  
consciously thinking about it  
A short distance, then longer...  
Again
3. Ride the bike without thinking  
about it







1. Try the first time (and mess up braking and downshift)
2. Practice, practice, practice while consciously thinking about it
3. (Eventually) Smooth downshift without thinking about it



- 0 Don't notice brake release (rough)
1. Pay attention to brake release
2. Practice, practice, practice while consciously thinking about it
3. (Eventually) imperceptible release without thinking about it



## What to Learn: The Learning Sequence



### 1. The line

- i.e. the right one for you and your car

### 2. “Corner exit car control”

- Maximize exit speed—and safety
- “Throttle Application Point” (TAP)
- “Wide Open Throttle” (WOT)

### 3. Braking and entering the turn

- Smooth transition from straight to TAP
- Key is “End of Braking” Point (EOB)

**Tip: Braking late is the last place to find speed**







## What Separates “the Best from the Rest”?



1. They focus on the basics.
  - The advanced stuff is just doing the basics better.
2. They're committed to learning.
  - They make learning an objective.
  - They know the more they know, the better they will get.
3. They prepare.





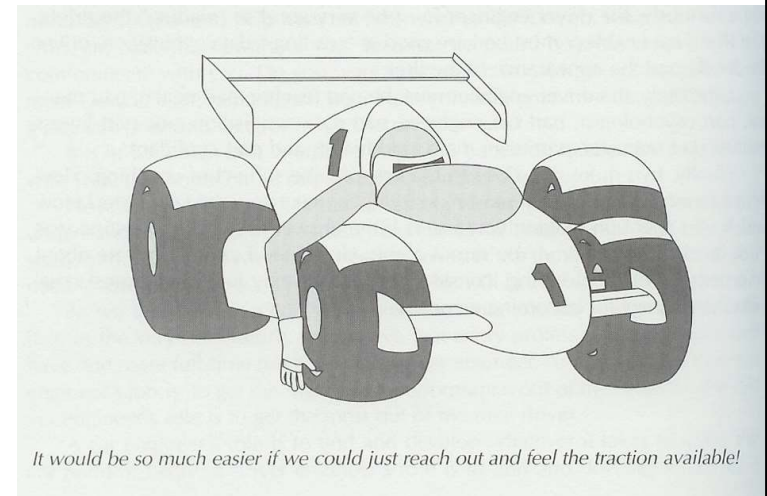
# How to Improve Learning



- At home
  - Review previous notes, track map, good videos
  - Simulator
  - Visualization (mental imagery)
  - Fitness
  - Make sure car is all set
- At the track: before driving
  - Notebook with written goal(s) for each session
  - Visualization
  - Fitness
  - Focus
  - Relax



- Attitude/Focus: get better on each run
  - Admit you don't know it all
  - Warm up slowly—and smoothly
- Focus on:
  - One corner
  - One technique
  - One session at a time
- Sensory Input Sessions
- Don't go out with your friend(s) on every run
- Leave the car alone





## How to Improve Learning: After Driving



1. Capture learning right away (*1<sup>st</sup> 10 minutes*)
  - Write down what worked, what didn't work
    - What did I do well that session?
    - Rate your performance 1-10; not the result
    - Note as many RP's as possible: "turn in at tire mark"
    - If I could do just three things better next session, what would the priorities be?
  - Do before lap times, data, video, or socializing
2. Relax, grab food, prep car, socialize
3. Time permitting, review data and/or video
4. Mentally prep for next session
  - Decide 1, 2 or 3 changes
  - Visualize
  - Create a "trigger"

*Source: Ross Bentley, Speed Secrets Weekly 309*



- Allows for Practice
- Experience varying conditions
  - Cold/hot, dry/wet, slippery/sticky, light traffic/heavy traffic, mechanical issues, etc.
- Should build Situational Awareness
  - Requires observing, not just looking
  - Requires adapting to circumstances
  - Peripheral vision, etc.
  - Confidence
  - Faster reaction time
    - E.g. pass signals
  - “Prepare to recover”

Q: How do you get to Carnegie Hall?

A: Practice, Practice, Practice.







# What Does “Practice” Mean?



- **How you practice is more important than the *amount* you practice.**
- Purposeful practice:
  - Get outside your comfort zone but
  - Do it in a focused way,
  - With clear goals,
  - A plan for reaching those goals, and
  - A way to monitor your progress.

Example - Reach 6,250 rpm at  
track out cone in turn 7 (toe)  
by going to WOT 3 feet sooner

*Source: Ross Bentley, Speed Secrets 322*

*Also, see Talent is Overrated by Geoff Colvin, and  
Peak. Secrets from the New Science of Expertise by  
Anders Ericsson and Robert Pool*





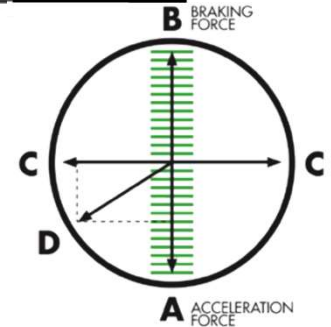
## A Few Tips and Ideas



- Seating position
  - Tilt side mirrors out
- Add Reference Points
- Lighten grip on steering wheel
- Turn your head to look “into” the turn
- Look further ahead
- Learn to relax shoulders and hands
- Try 3 deep breaths on straightaway
- Scan all 3 mirrors, not just 1
- Release brakes slower
- Get “in the zone”
  - Don’t drive if not mentally prepared
    - stress, pressure, anxiety, frustration
- Use your whole brain
  - Mental imagery, cross-crawls, etc.



- Avoid “coasting”
  - Stay at full throttle until time to brake
- Maximize time at full throttle (WOT)
  - Find a line that allows you to get to WOT earlier on turn exit
- Avoid “over slowing” into a corner
  - Focus on where you release the brake vs. where you first go the brake pedal.
- Being smart beats being brave
  - And tends to be much less expensive



Don't assume the turn that challenges you the most is holding you back, that is normally not the case.



# How to Measure your Progress



- “Index” your speed at a track marker
  - Check exit speed at, or just after, track out cone
  - Use RPM vs. MPH for finer detail
  - Check Start/Finish RPM
  - Track where you go to full throttle (WOT)
- Index by listening
  - Listen to your throttle position from turn-in to apex
    - “On and off” the throttle means you have over slowed the car
  - If you accelerate at the apex, but need to lift before turn exit, you need a later turn in and later apex





## How to Get “Unstuck”



- Break your driving down into small, digestible bites.
  - One technique, skill or mental aspect
- Do something different - experiment.
- Give yourself a break.
- Get coaching.
- Be okay with being uncomfortable
- Between time on the track, go back to the basics.



*Source: Ross Bentley, Speed Secrets Weekly 217*





- If it seems you are not improving, you are about to
- If you feel your driving is on a plateau and you're not improving, rest.
  - Then push yourself, harder than ever before.
  - Make yourself a little uncomfortable, just as you would when pushing to do one more rep when weight lifting.
  - Then, rest again.
  - Do something different, working outside your comfort zone.
  - Rest.
  - Give your mind time to process and turn what you struggled to do into something you do without thinking.





# Summary: How to Learn Faster



- Prepare to learn
  - At home
  - Notebook, map, etc.
  - Have a plan
- Focus on 1 to 3 discrete goals per session
  - Not lap time!
- Deliberate practice
  - Try things
  - Challenge yourself
- Don't get stuck
- Remember to have fun!





# Track Map for Your Notes

