Teaching Process
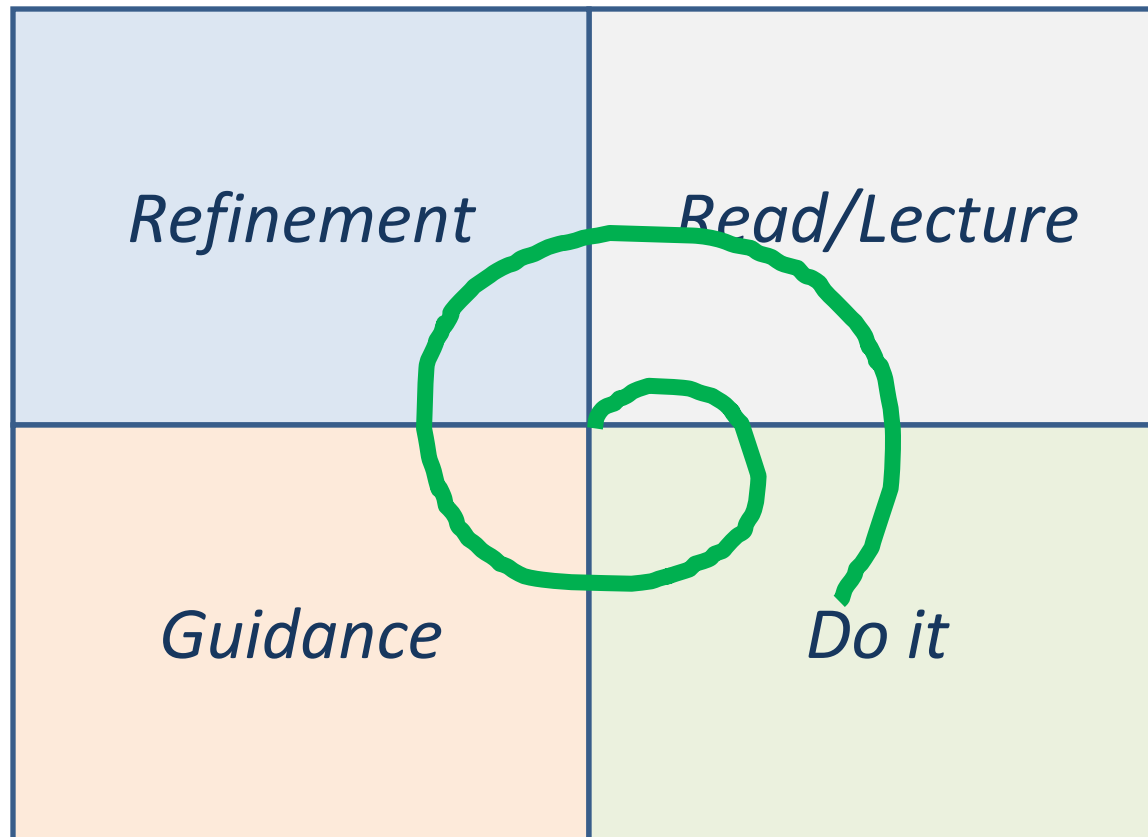
Refinement	Read/Lecture
Guidance	Do it

Purpose of this Mentorship

- Humans are visual creatures
- Cultivation of Imagination

"True sign of intelligence is not knowledge, but **imagination** ."

Albert Einstein

- Concepts vs. Techniques and Tools ?
- What we do defines us.

Formula for Achievement

(Attribute x Time)^M = Achievement

- Attributes are your gifts:
  - Physical
  - Mental
  - Social
- Time cannot be manipulated
- Motivation can impact your outcome geometrically

MOTIVATION CAN BE CHANGED IN A HEART BEAT

Attributes for Success

1. Strong sense of Purpose
2. Seek out mentors
3. Strength of vision and goal
4. Optimistic
5. Self-assurance – confidence
6. Plan and organization in priority
7. Ability to get needed skills
8. Being observant
9. Love what you are doing
10. Patience

Propeller Design

- The motors that are part of the Sea Perch kit have very little torque.

- The propeller designs have to be evaluated for the right balance of:

  - Diameter

  - Solidity Factor Ratio of assumed 2-D rotor blade area / disk area

  - Blade pitch to be used.

Propeller Design

Motor:

- Nominal Voltage (VDC): 12
- Voltage Range (VDC): 6-18
- Current Amps: 0.74
- Speed RPM: 9820
- Torque (g-cm): 53.5
- Efficiency: 60.7
- Terminal Type: Solder
- Shaft Dia : 0.091″
- Shaft Length: 0.622″
- Body Size (Dia x Depth): 1.082 x 1.279
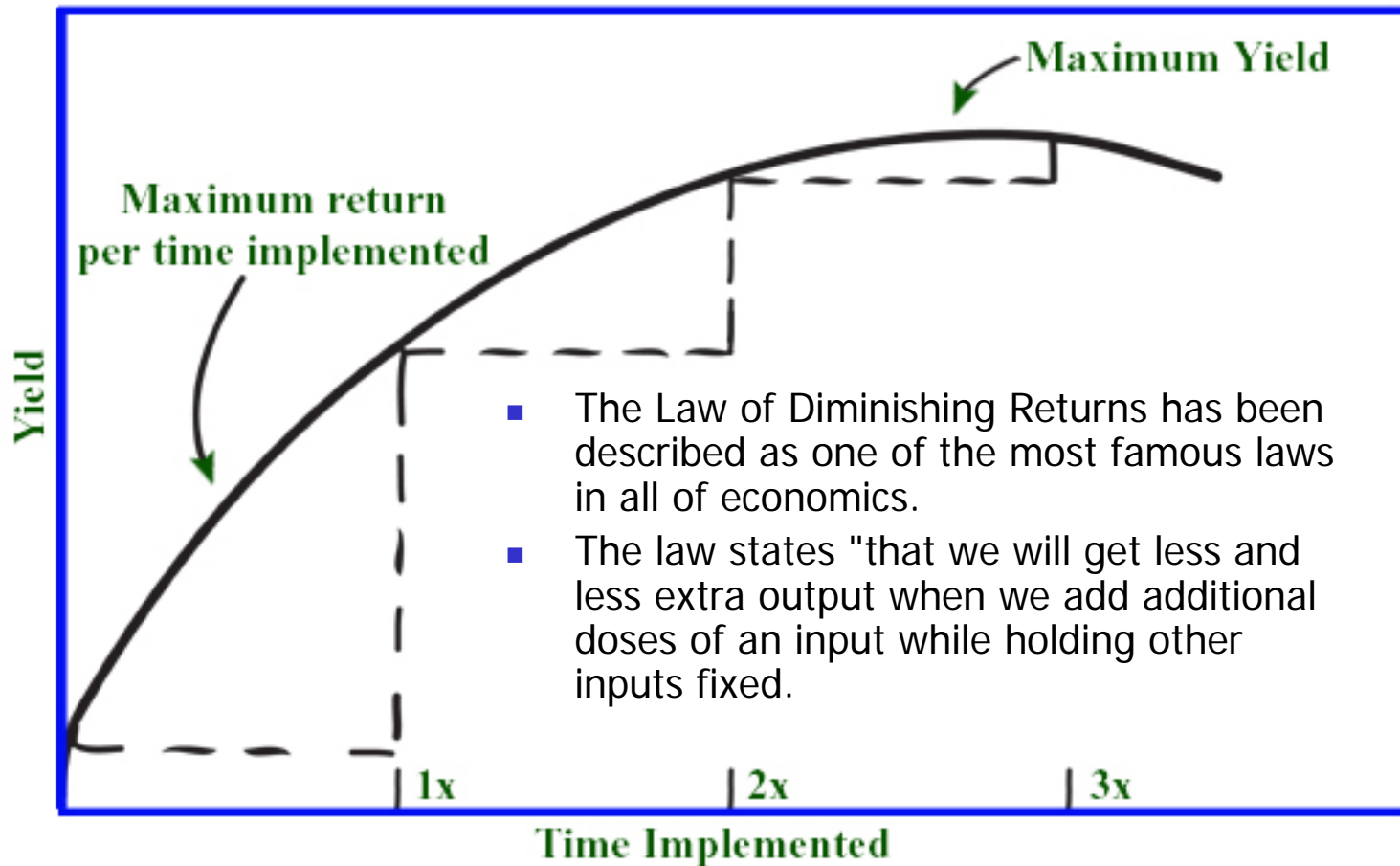
Optimal Propeller

- No of Blades: 2
- Dia : 40-45 mm (1.55 -1.77″)
- Pitch : 60-65 degrees

  (bite and then curved to flat)

- Must have max surface area / Solidity factor
- Must be smooth / sharp
- Max "clear water"

Time – "Currency"

- Take accounting of your time
- Spend your time on "Real" endeavors
- Exercise moderation and balance
- Identify the Priorities
- Implement "Law of Diminishing Returns"

Law of Diminishing Returns

Maximum Yield

Maximum return per time implemented

Yield

- The Law of Diminishing Returns has been described as one of the most famous laws in all of economics.
- The law states "that we will get less and less extra output when we add additional doses of an input while holding other inputs fixed.

1x   2x   3x

Time Implemented

Goals to Pursuit

- Defend and Promote
  - Life
  - Family
  - Property / Resources
  - Individual Dignity
  - Belief / Intellect
    - (Note: Pursuit must not adversely effect other elements)
- The Engineering Internship Projects – Life Tools
  - Project 1: Technical Evaluation
  - Project 2: Program Management
  - Project 3: Individual Development