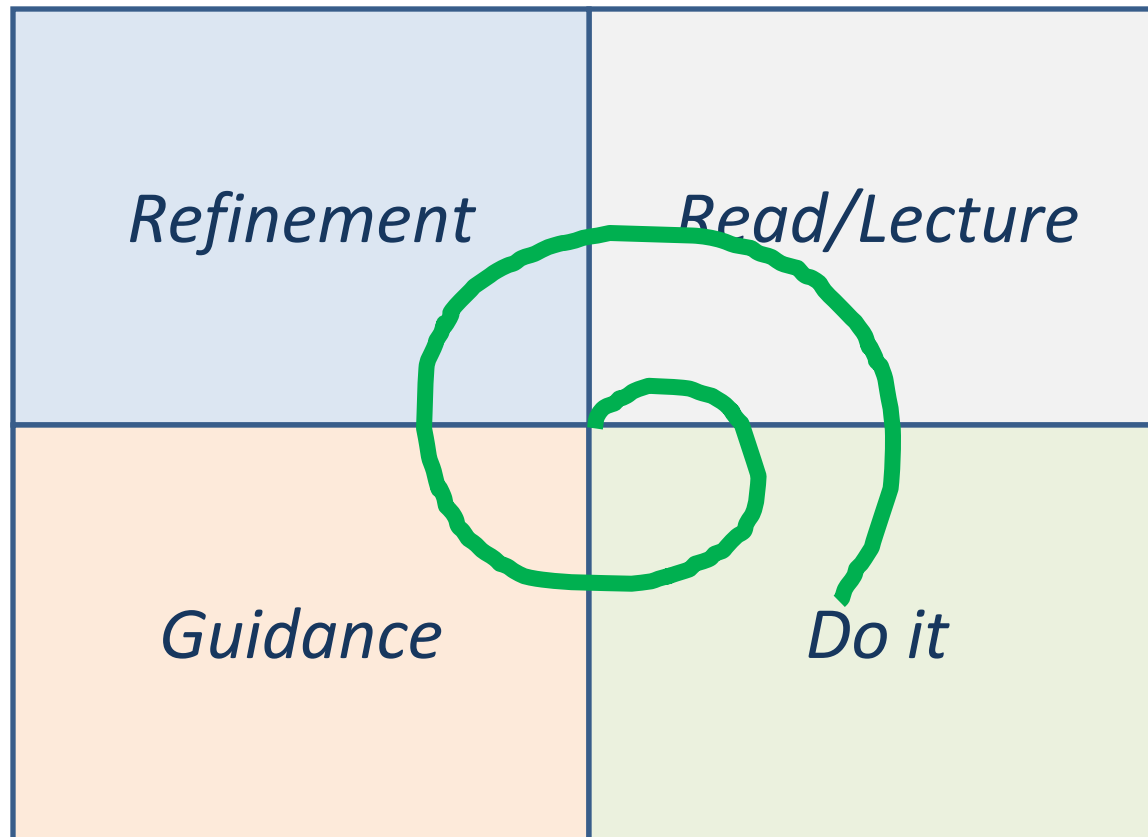
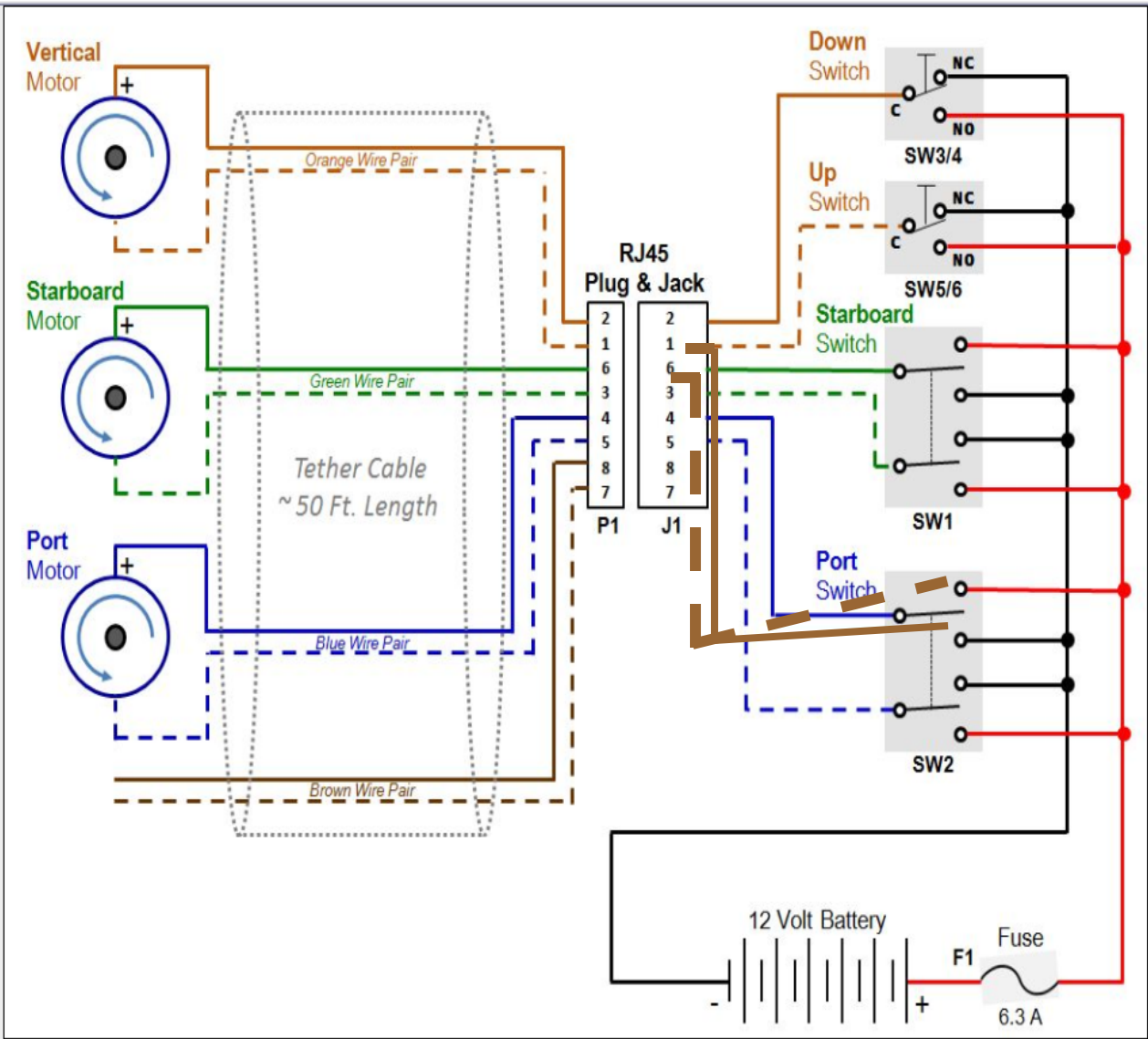




# Teaching Process

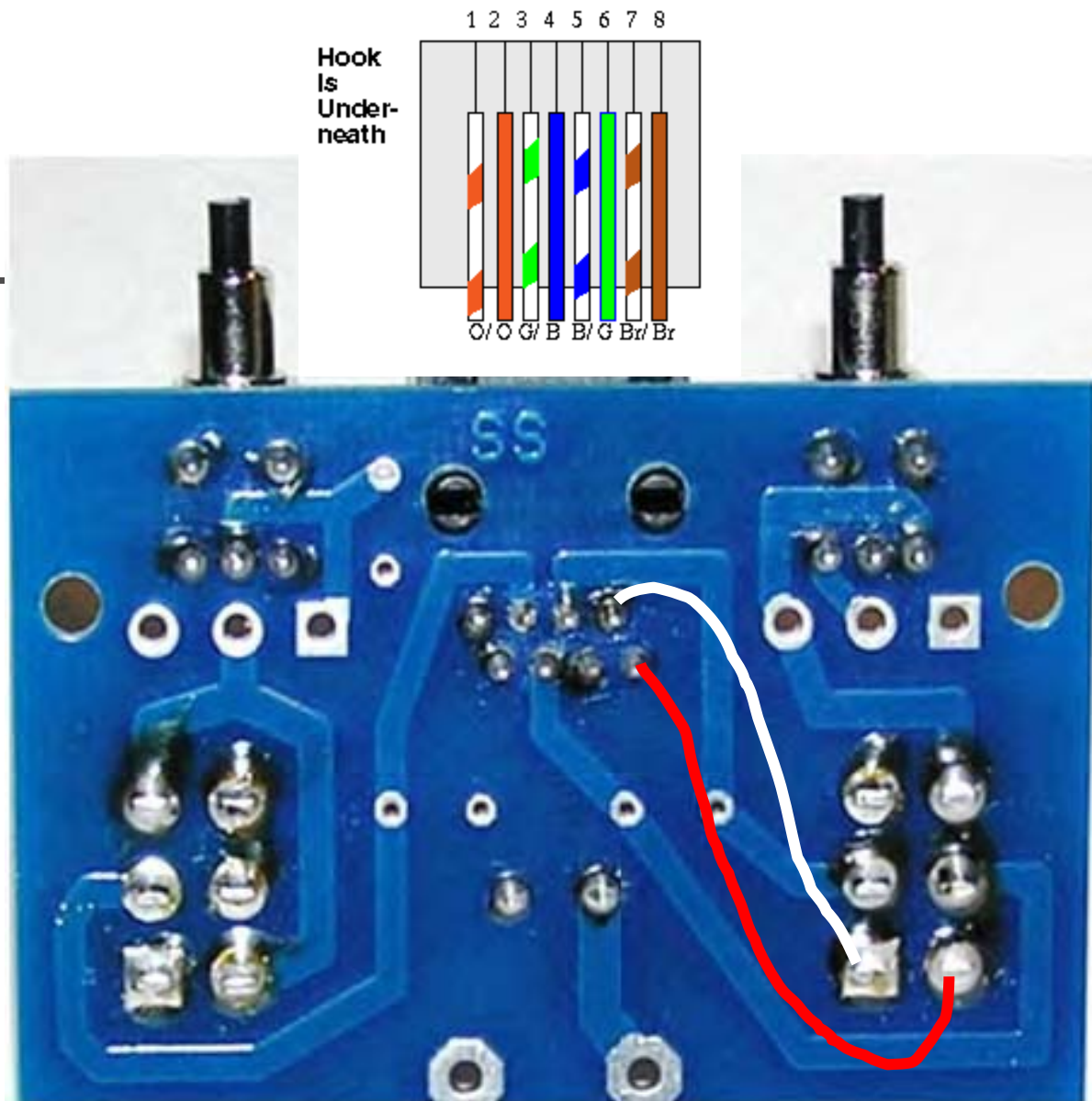
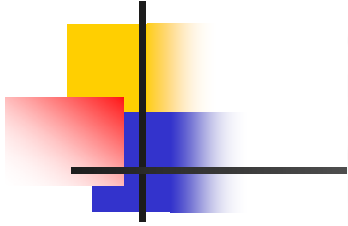




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# What is a Mentor?

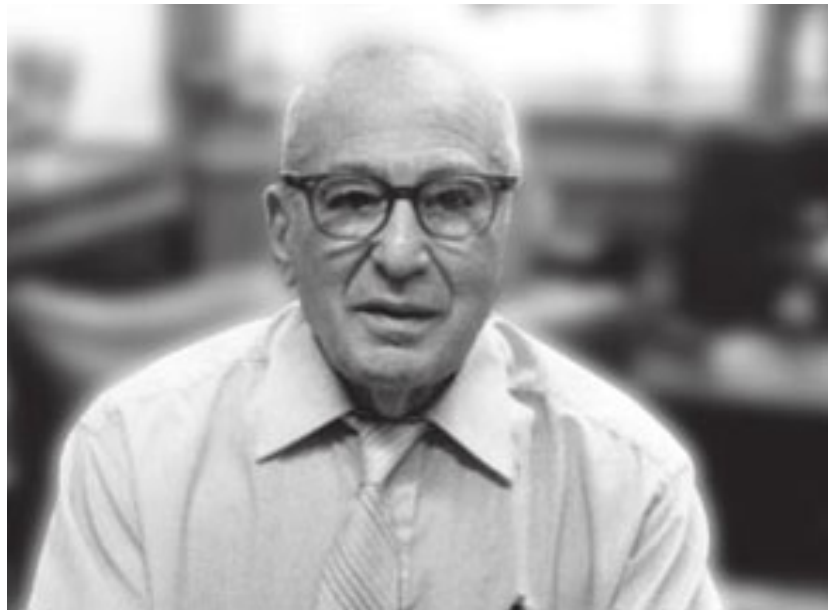
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- Mentor: a trusted friend, counselor or teacher, usually a more experienced person.
- Some professions have "mentoring programs" in which newcomers are paired with more experienced people, who advise them and serve as examples as they advance.
- Today mentors provide expertise to less experienced individuals to help them advance their careers, enhance their education, and build their networks.



# One of my Mentors

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**Marvin Camras**

Illinois Institute of Technology (IIT) – Bridge Building Competition  
IIT 500 – Car Building and Race  
EE 383 Electronic and Electrical Circuits

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# One of my Mentors

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- **Marvin Camras** (1916–1995) was an electrical engineer and inventor who was widely influential in the field of magnetic recording.
- Camras built his first recording device, a wire recorder, in the 1930s for a cousin who was an aspiring singer. **Shortly afterwards he discovered that using magnetic tape made the process of splicing and storing recordings easier.**
- Before and during World War II Camras' early wire recorders were used by the armed forces to train pilots. They were also used for disinformation purposes - battle sounds were recorded and amplified, and the recordings placed where the D-Day invasion was not going to take place. This work was kept secret until after the war.
- In June 1944 he was awarded US Patent number 2351004[1], titled "Method and Means of Magnetic Recording". In all, Camras received more than **500 patents**, largely in the field of electronic communications.
- Camras received a bachelor's degree in 1940 and a master's degree in 1942, both in electrical engineering, from Illinois Institute of Technology (IIT) . In 1968, the institution awarded him an honorary doctorate.
- **In recognition of his achievements, he received the National Medal of Technology award in 1990.**



# Purpose of this Mentorship

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- 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

$$(\text{Attribute} \times \text{Time})^M = \text{Achievement}$$

- **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

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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

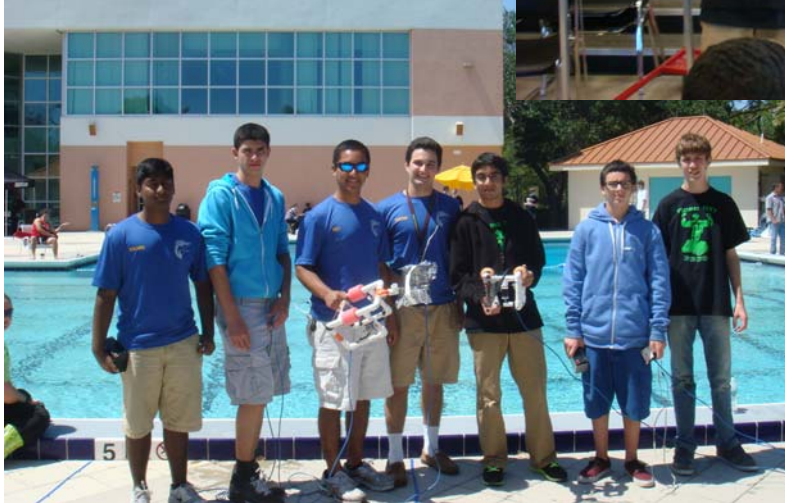


# SeaPerch Design

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- Per the SeaPerch Manual
  - Easy to implement
  - Learning tool
- Designing for Reliability
  - Protection of the motors
  - Internalizing the wiring
- Designing for Competition
  - Efficiency in movement
  - Increase in speed

# Designing for Reliability



# Designing for Competition

