The Model for Improvement

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Improvement Science

- Understanding Variation
- Psychology of Change
- Systems Thinking
- Theory of Knowledge

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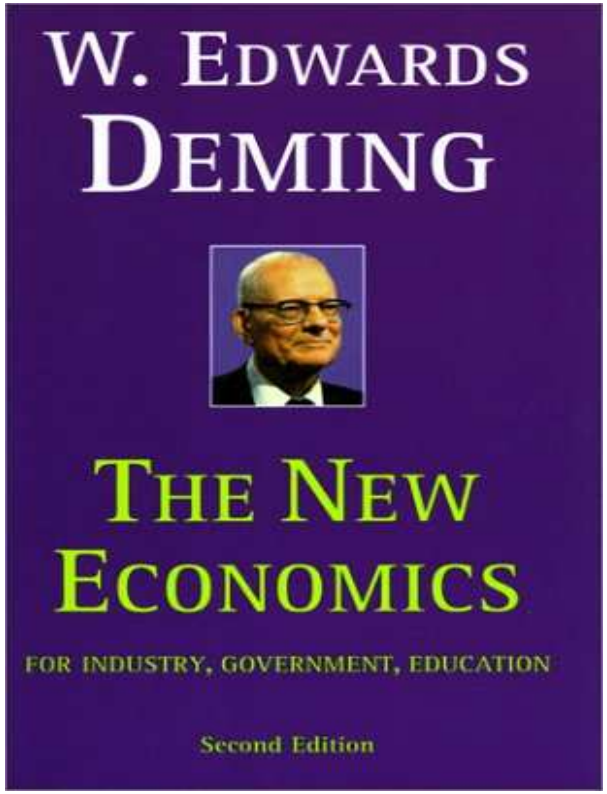
- Subject Matter Expertise



First articulated as Profound Knowledge by W. Edwards Deming

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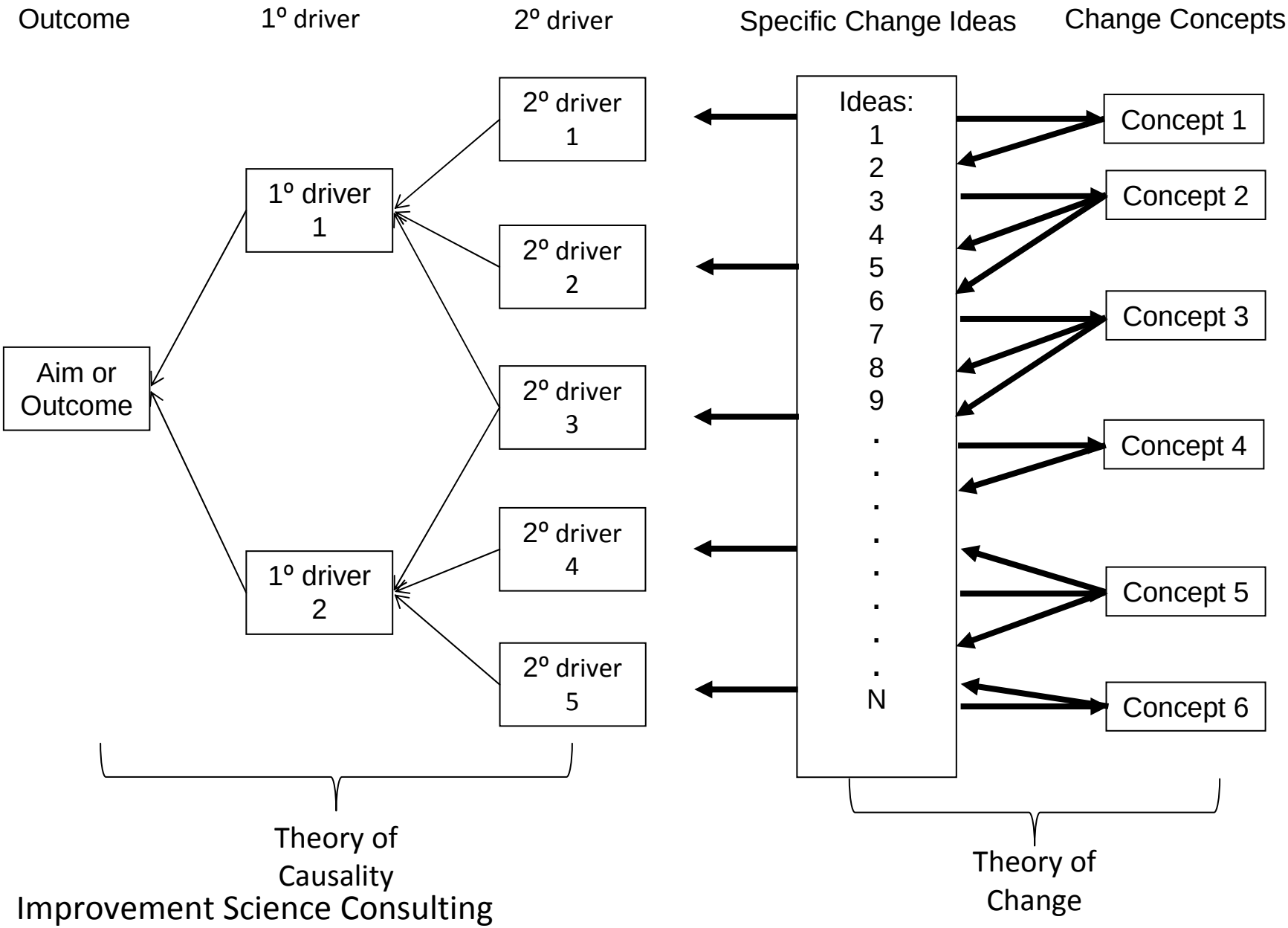
Conceptual Driver Diagram



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Model for Improvement

Insanity:

The definition of insanity: Doing the same thing over and over again and expecting different results

- Most often attributed to Albert Einstein

Scientific Method

- Analytic in nature with the focus on the development/discovery of new knowledge

- Bruce Ratcliffe

Bruce Ratcliffe

Quick Breakout

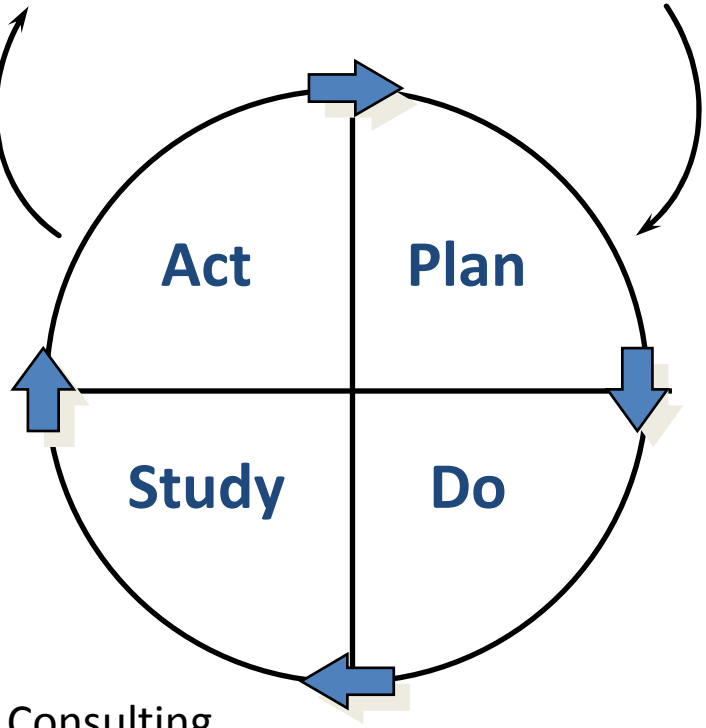
- With the person next to you spend 2 minutes exchanging stories of when you learned from failure
  - What was the context?
  - How did you fail?
  - What did you learn?
  - How have you acted differently since then?

Model for Improvement

What are we trying to accomplish?

What change can we make that will result in improvement?

How will we know that a change is an improvement?



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Langley, et al.

This comparison/examination generates knew knowledge about what change might work or what modification is needed

PDSA Learning Cycle:

Most important part of any PDSA cycle is the Prediction as it represents current knowledge about how a process or system will behave in the future.

Inductive learning begins here

When predictions are compared with actual outcomes they can reveal gaps in our current understanding of why a process or system behaves the way it does

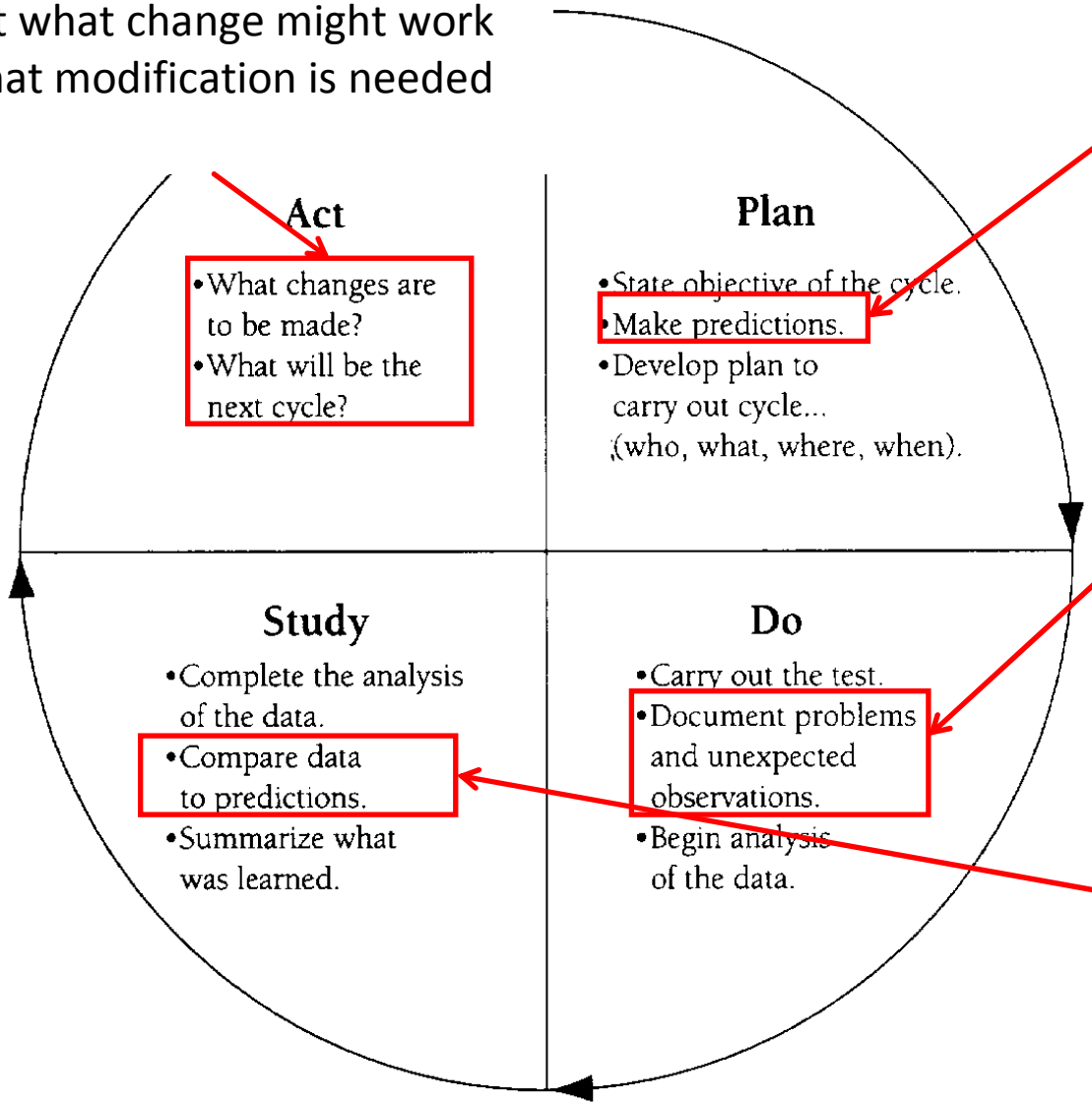

Figure 4.1. Elements of the PDSA Cycle.

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Langley et. al

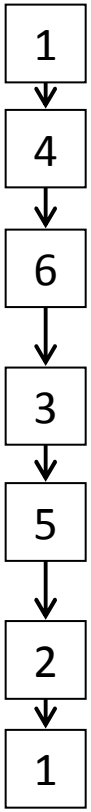
Break out Exercise

- At your table: How many people are at your table? 5 or 6?

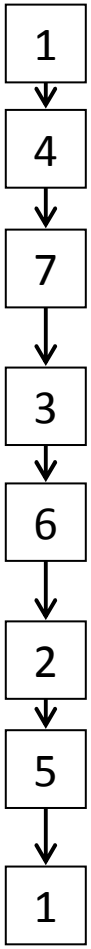
- Assign a number to each person at your table, starting with the number 1 and continuing until you run out of people

Exercise Sequence

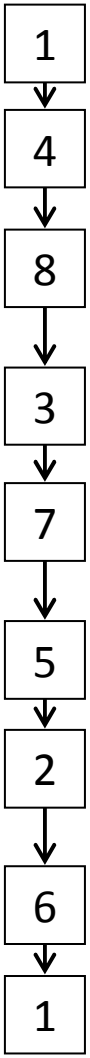
6 people



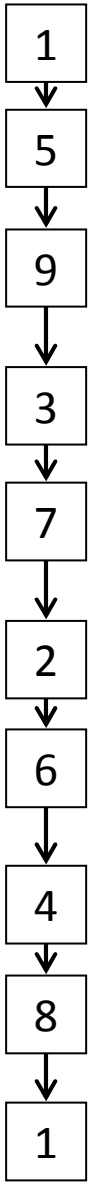
7 people



8 people



9 people



Break out Exercise

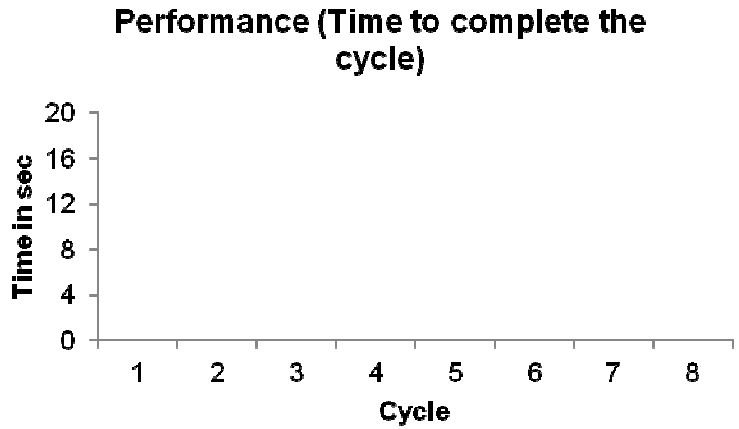
- Your current process involves tossing the tennis ball provided from person to person, following the sequence provided (i.e. Person 1 tosses to Person 3 who tosses to person 5 and so on, until the ball returns to person 1)
- Assign a time keeper/ball drop counter
- Practice your process one time – Time keeper please time how long the team takes to complete the process (in seconds) and the number of times they drop the tennis ball – record this as your baseline attempt

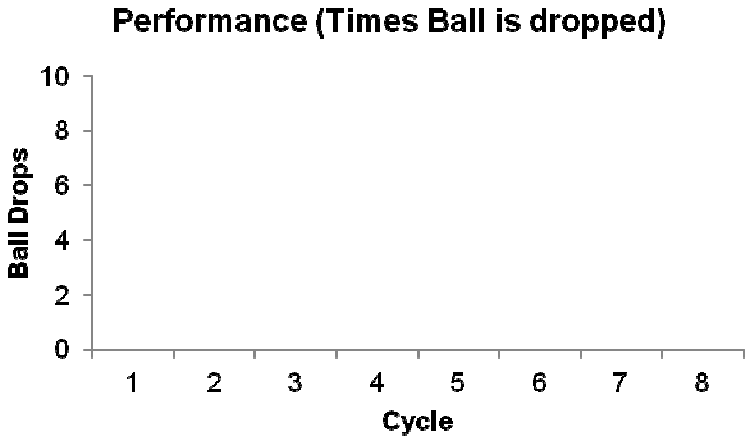
Break out Exercise

- Team Aim: We aim to reduce the time taken for every person to touch the ball from X (our baseline) to Y. We also aim to reduce our ball drops from A (our baseline) to B.
- Form a theory, come up with change ideas, use the MFI to test those ideas
- Rules:
  - The initial sequence as provided must be adhered to
  - You may only test one change idea at a time
  - After each test one person needs to come forward to report data while the team discusses learning, adjusts theory and prepares for the next test of change

Break out Exercise

Cycle	Change Idea	Time	Ball Drops
1			
2			
3			
4			
5			
6			
7			
8			





Break out Exercise

- What is our degree of belief in our changes?

- Did they lead to the improvement we see?

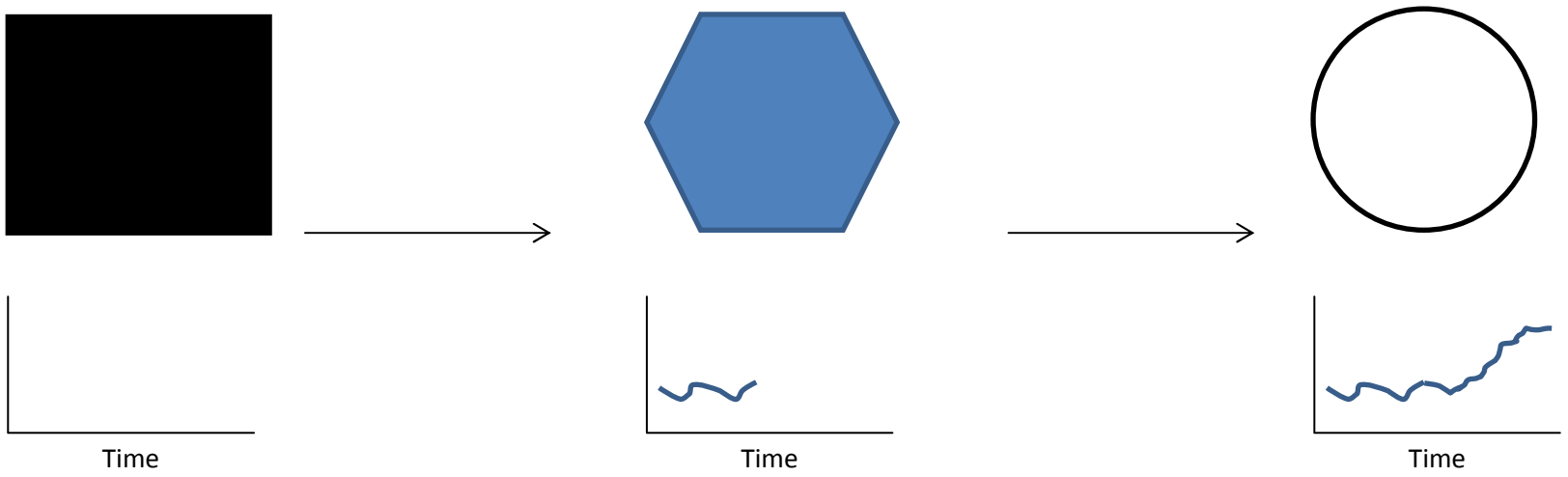
- How would we increase our degree of belief if there is doubt about the improvement observed?

Final Thoughts on PDSA

"The opportunities for learning about many aspects of the change from testing are expected to be significant, including learning from failures. **Some percentage of tests—perhaps 25 to 50 percent—is expected to result in no improvement, to "fail," but to result in substantial learning nevertheless."**

Langley et. al

From chaos and unknown performance we Design to create an organized system with known performance, and from that starting place we Improve to achieve a wanted system with desired performance



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