

DAILY IMPROVEMENT: HARNESSING THE POWER OF SCIENTIFIC THINKING

Dane Falkner

Manager, Quality and Operational Excellence
System Quality

Dane.Falkner@hsc.Utah.edu | <https://www.linkedin.com/in/danevfalkner/>

CONFIDENTIAL

© UNIVERSITY OF UTAH HEALTH



September 18, 2024

TABLE OF CONTENTS

1

Starting an Improvement Project

2

The Scientific Method
(PDCA/PDSA) &
Scientific Thinking

3

What is Kata?

4

Improvement Kata

5

Potato Head Exercise

6

Summary / Q&A



EVERY CHALLENGE A COMPANY MAY FACE

LEADERSHIP IS THE SOLUTION

LEARN.

LEAD.

WIN.

STARTING AN IMPROVEMENT PROJECT

WE HAVE LOTS OF INTERNAL DATA



WE HAVE LOTS OF BENCHMARKING DATA



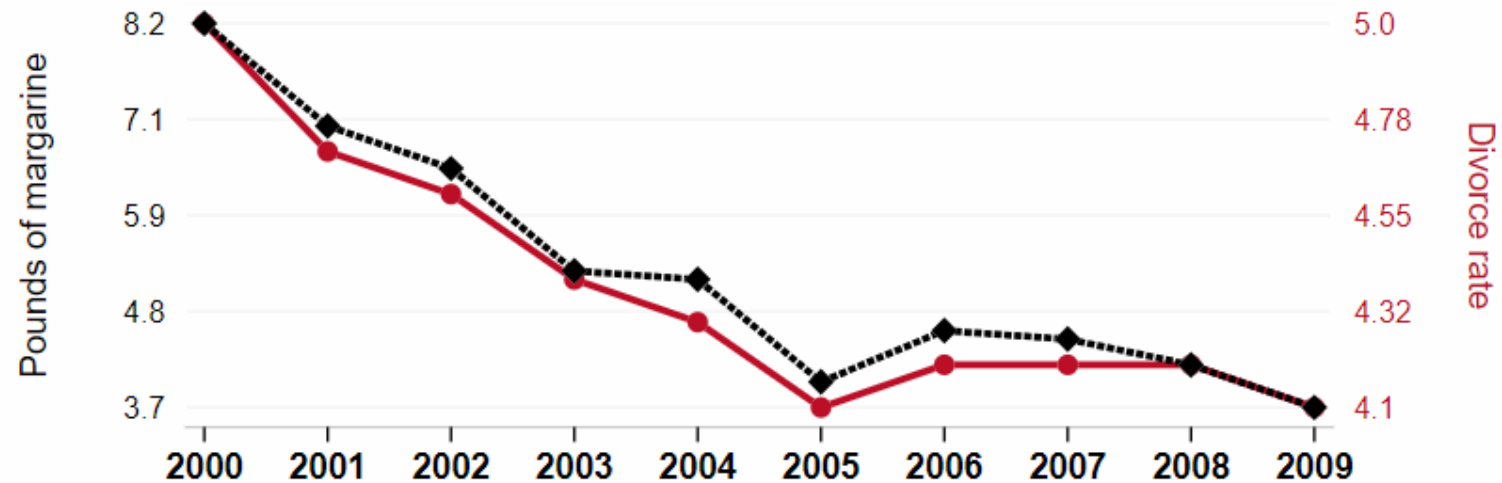
CORRELATION DOES NOT EQUAL CAUSATION

DATA CAN BE TORTURED TO TELL US THE STORY WE WANT

Per capita consumption of margarine

correlates with

The divorce rate in Maine



◆ Per capita consumption of margarine in the United States · Source: US Department of Agriculture

● The divorce rate in Maine · Source: CDC National Vital Statistics

2000-2009, $r=0.993$, $r^2=0.985$, $p<0.01$ · tylervigen.com/spurious/correlation/5920

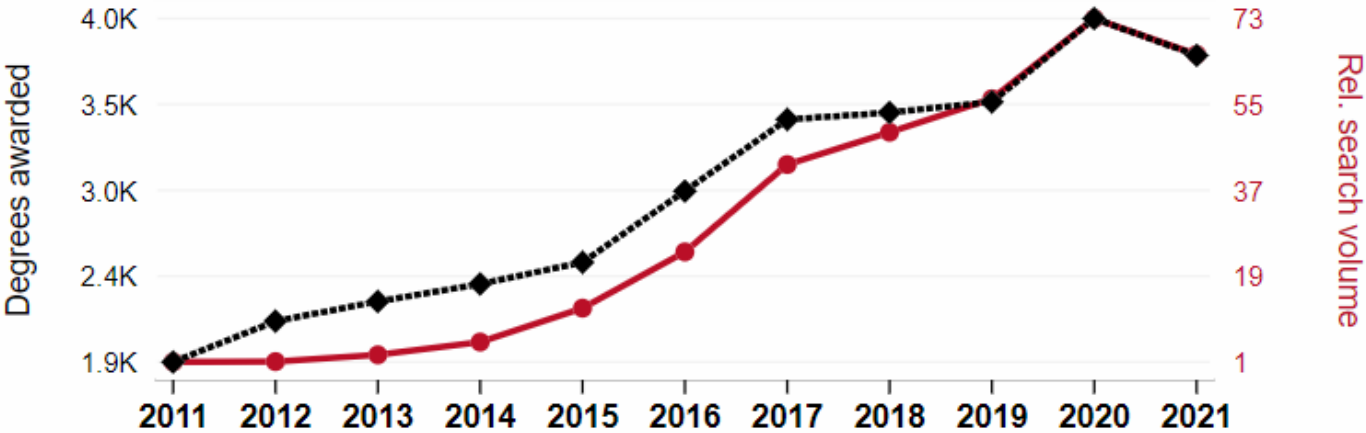
CORRELATION DOES NOT EQUAL CAUSATION

DATA CAN BE TORTURED TO TELL US THE STORY WE WANT

Associates degrees awarded in Science technologies

correlates with

Google searches for 'avocado toast'



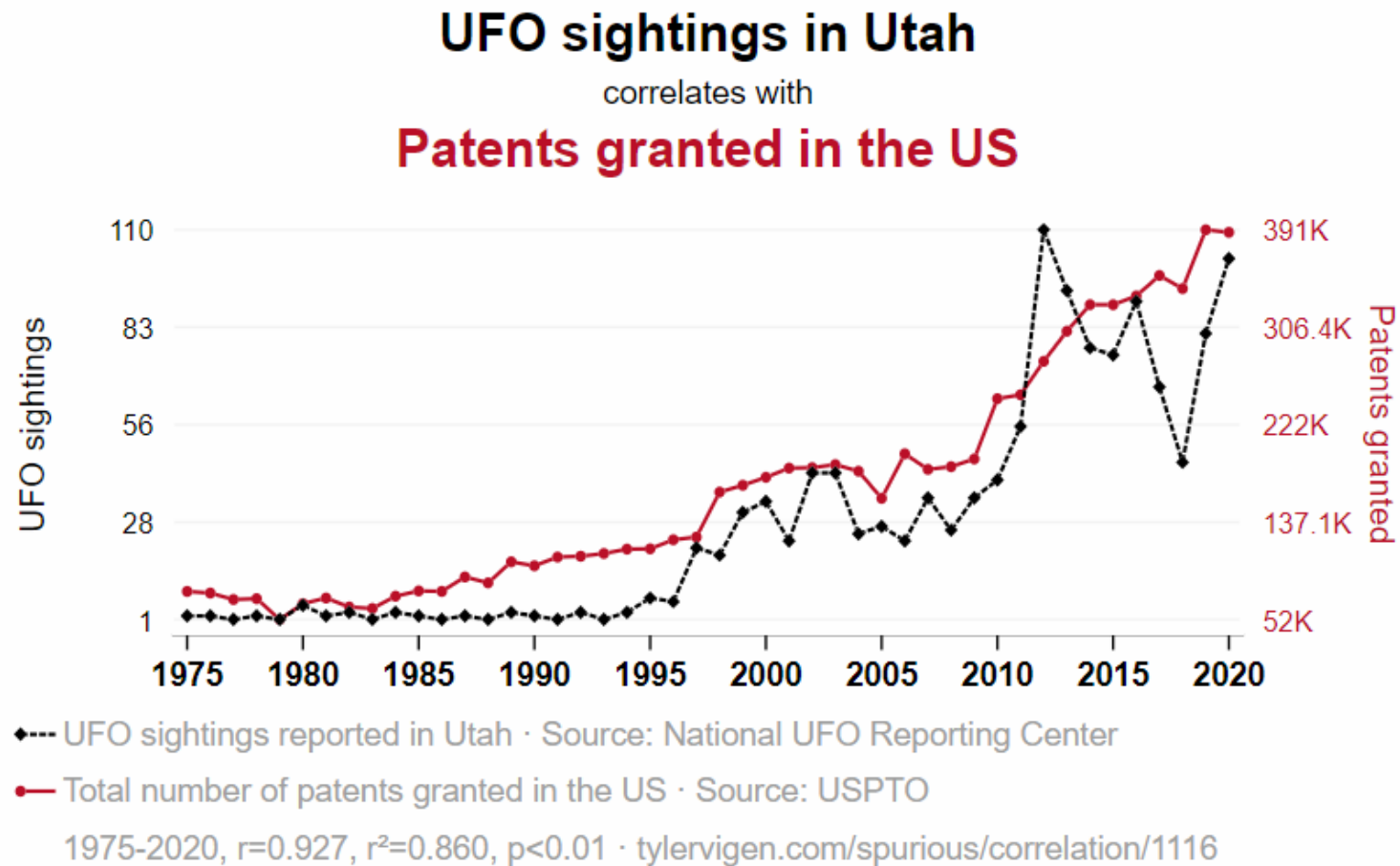
◆ Associate's degrees conferred by postsecondary institutions with a field of study of Science technologies/technicians · Source: National Center for Education Statistics

● Relative volume of Google searches for 'avocado toast' (Worldwide, without quotes) · Source: Google Trends

2011-2021, $r=0.985$, $r^2=0.970$, $p<0.01$ · tylervigen.com/spurious/correlation/2965

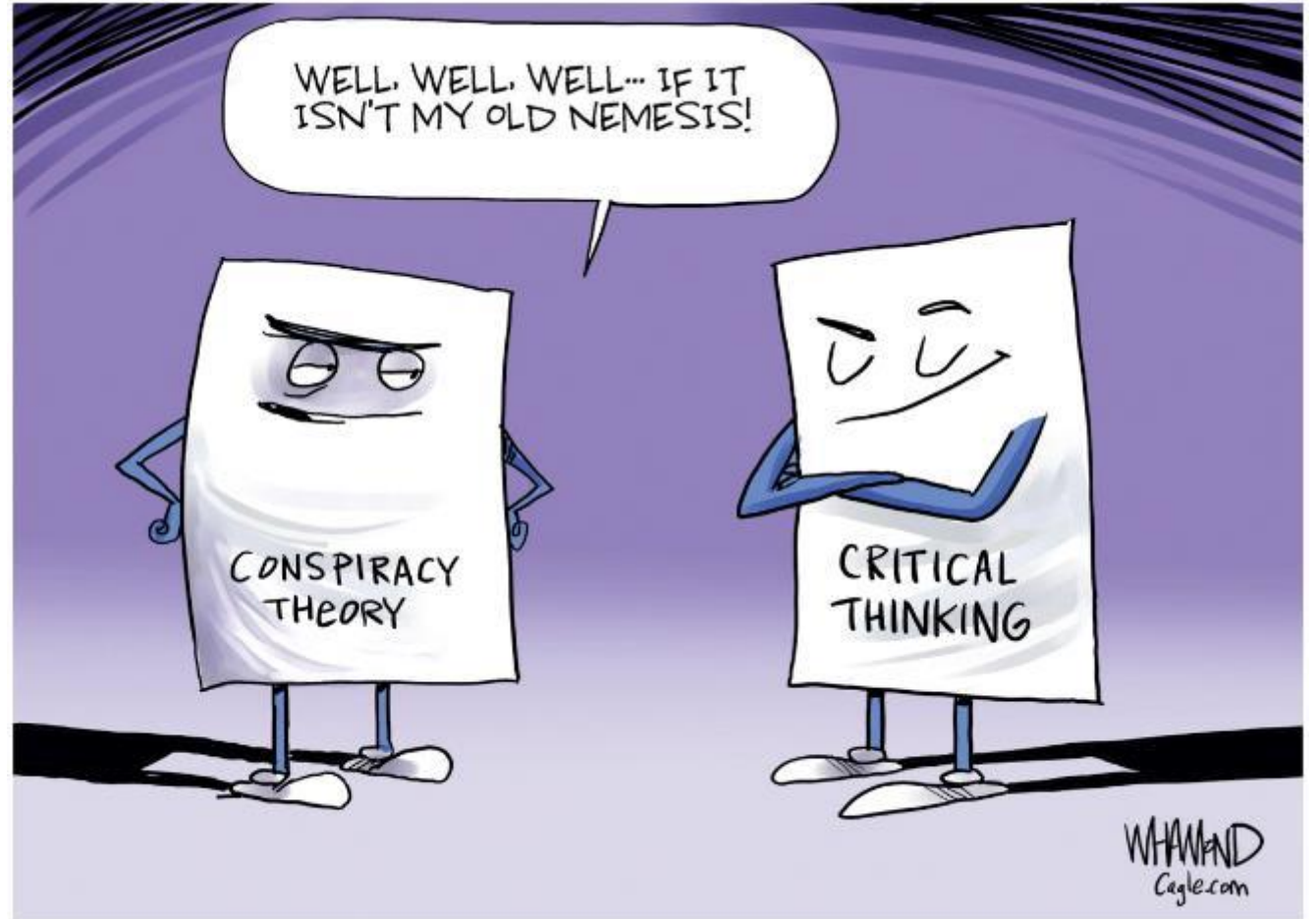
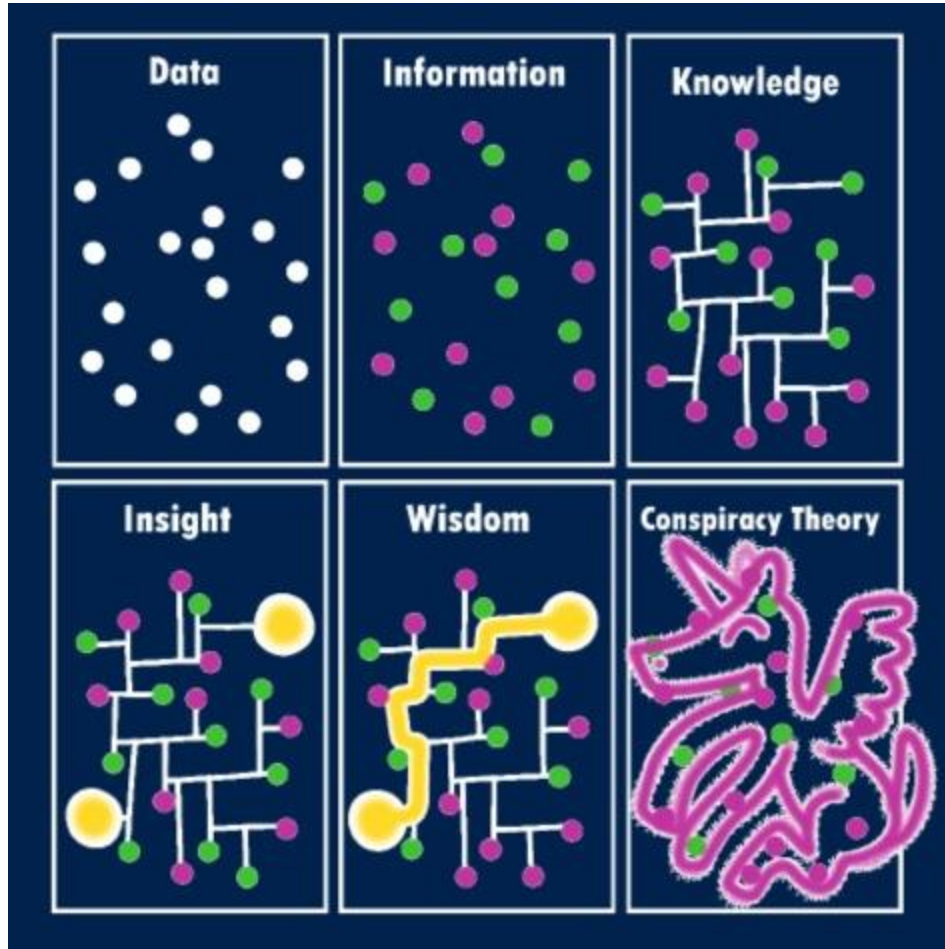
CORRELATION DOES NOT EQUAL CAUSATION

DATA CAN BE TORTURED TO TELL US THE STORY WE WANT



DATA ALONE IS LIMITED

WE NEED THE EXPERTS TO HELP US CONNECT THE DOTS



WHAT ABOUT STAFF INSIGHT?

VALUE CULTURE (2018), SHARED GOVERNANCE (2022), AND JOY IN WORK (2024)

Goal: Everybody, everyday, engaged, empowered, and enabled to solve problems.

- Problems
- Ideas
- Needs
- Suggestions
- Rocks in the shoe

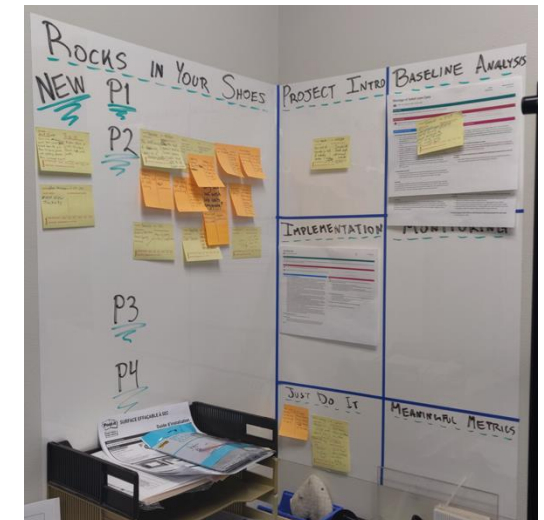
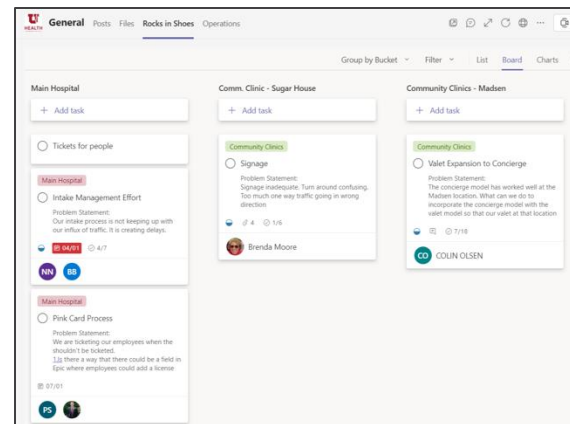
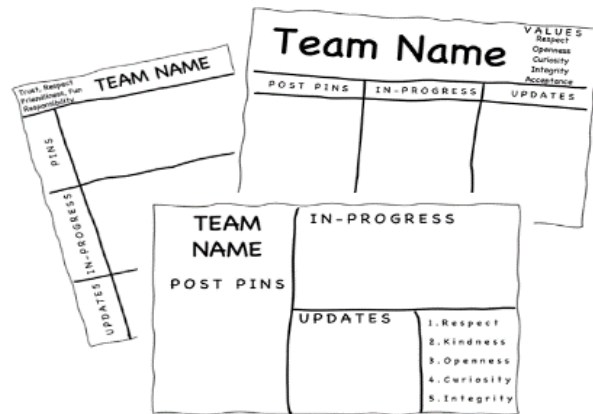
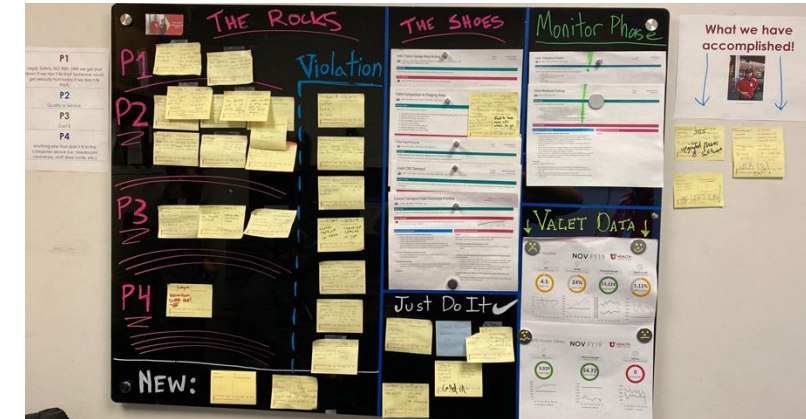
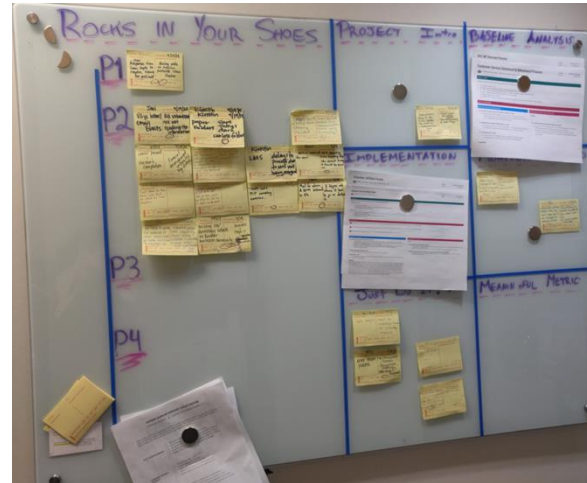


HOW TO COLLECT STAFF FEEDBACK

VALUE CULTURE (2018), SHARED GOVERNANCE (2022), AND JOY IN WORK (2024)

Ask staff, “What matters to you?”

- Staff meetings
- BetterU survey
- Team boards

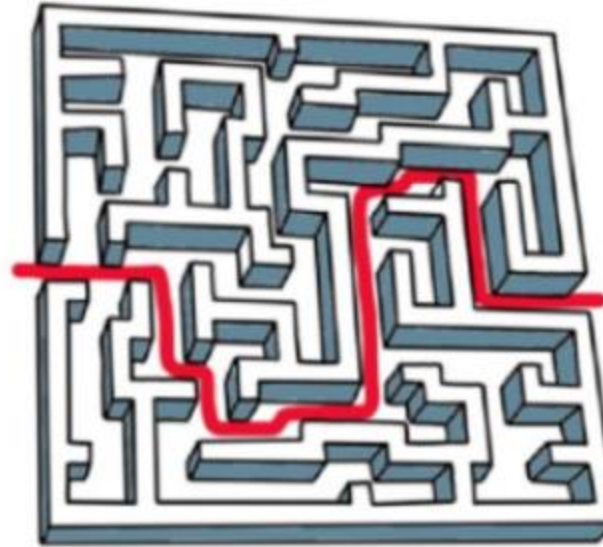


HOW TO COLLECT STAFF FEEDBACK

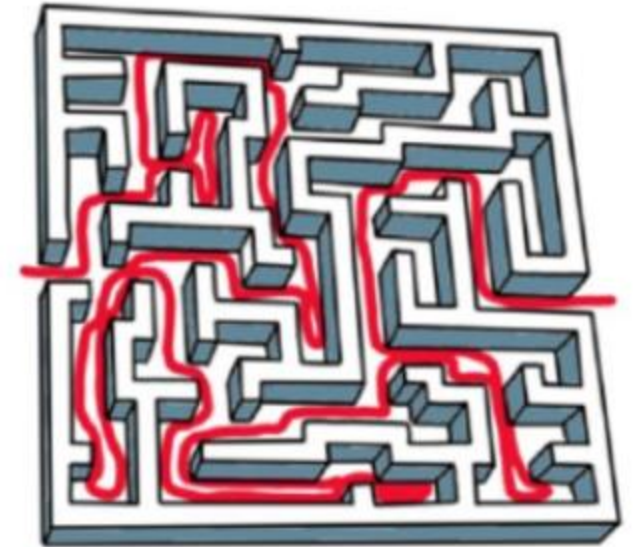
VALUE CULTURE (2018), SHARED GOVERNANCE (2022), AND JOY IN WORK (2024)

Ask staff, “What matters to you?”

- Staff meetings
- BetterU survey
- Team boards
- **Go and see**
 - Reduces negative emotions
 - Increases objectivity and focus
 - Increases focus on process



What people think it looks like



What it really looks like

WHAT DO WE DO WITH ALL OF THIS?

IDENTIFY PROBLEMS, DEVELOP HYPOTHESIS, DESIGN EXPERIMENTS TO TEST THEM



AHRQ

PCMH

BEST US News RANKINGS

PressGaney

vizient.

CMS.gov

SRTR SCIENTIFIC REGISTRY OF TRANSPLANT RECIPIENTS

MAGNET EXCELLENCE AMERICAN NURSES ASSOCIATION

TEAM NAME		VALUES	
TEAM NAME		Respect	Openness
TEAM NAME		Curiosity	Integrity
TEAM NAME		Acceptance	
POST PINS	IN-PROGRESS	UPDATES	

TEAM NAME	IN-PROGRESS
POST PINS	UPDATES
	1. Respect
	2. Kindness
	3. Openness
	4. Curiosity
	5. Integrity

“After careful consideration of all 437 charts, graphs, and metrics, what do we do now?”

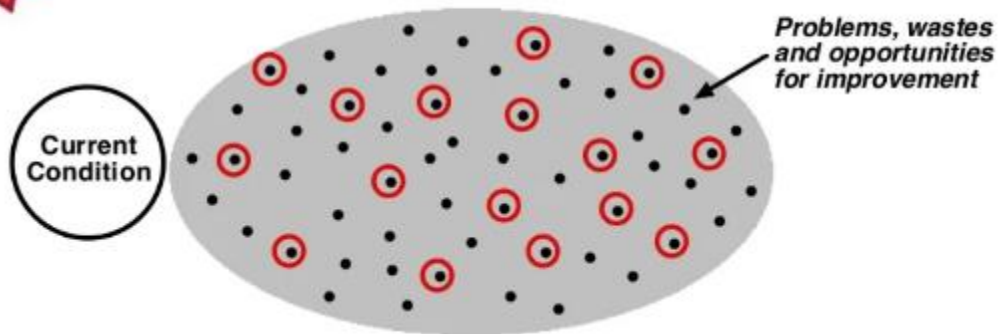
WHAT DOES YOUR DAILY IMPROVEMENT PATTERN LOOK LIKE TODAY?



Old Way

HOW DO WE TEND TO TRY TO IMPROVE?

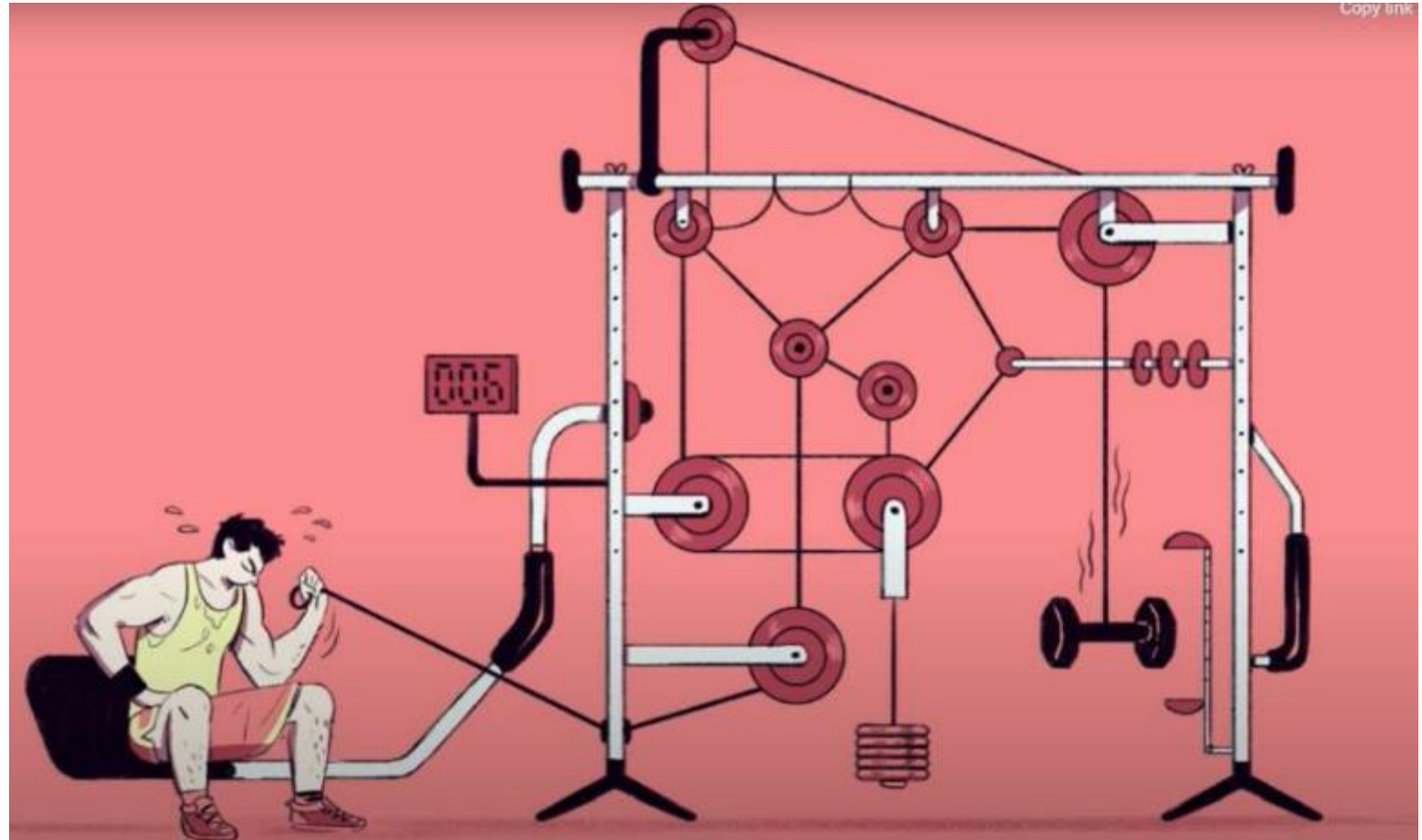
We hunt for wastes or react to problems, and try to eliminate them



COMPLEX SOLUTIONS



What's needed



What's designed

UNINFORMED SOLUTIONS

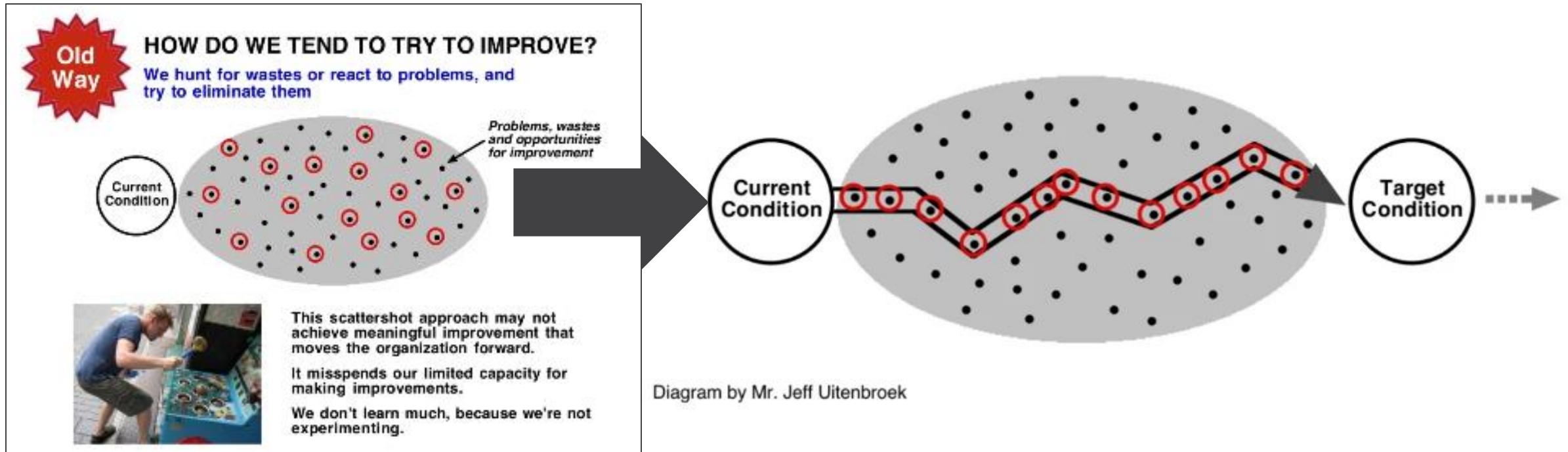


OR WORKAROUNDS



IS THERE A BETTER WAY? YES!

THE IMPROVEMENT KATA IS A DIFFERENT APPROACH



IS THERE A BETTER WAY? HOW?

USE IMPROVEMENT SCIENCE AND COMMIT TO A SYSTEMS APPROACH:

1. The Scientific Method (PDCA/PDSA)
2. Scientific Thinking
3. Kata

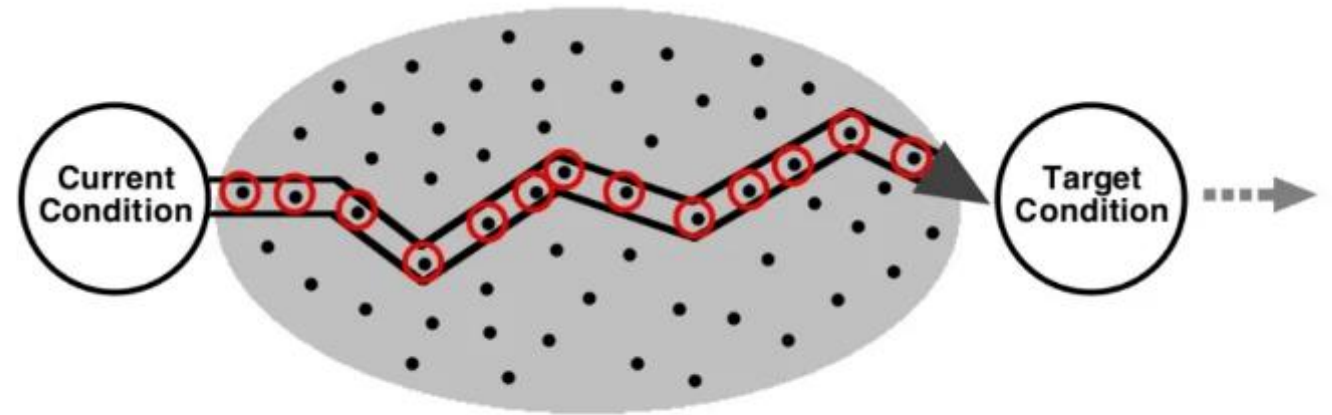
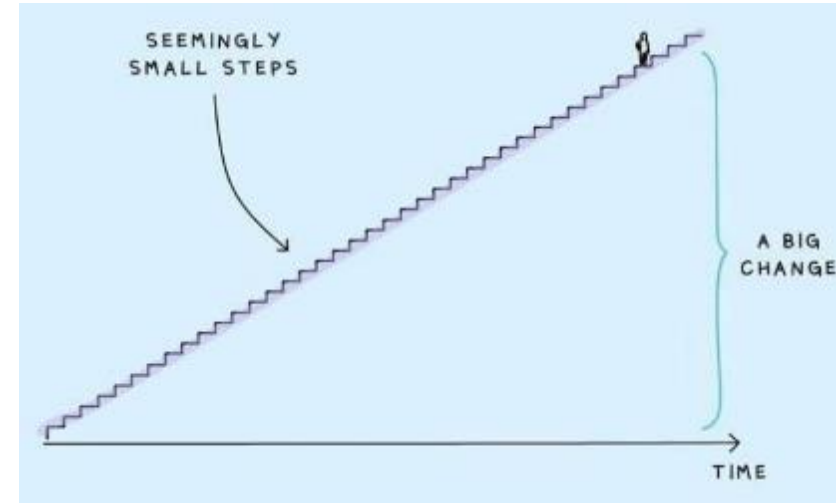


Diagram by Mr. Jeff Uitenbroek

THE SCIENTIFIC METHOD (PDCA/PDSA) & SCIENTIFIC THINKING

SCIENTIFIC METHOD

CONTINUOUS IMPROVEMENT: EVERYBODY, EVERY DAY, EMPOWERED, ENGAGED, IMPROVING



“CONTINUOUS IMPROVEMENT



IS BETTER THAN



“DELAYED PERFECTION”

SCIENTIFIC METHOD

GO AND SEE: TURN DATA, OPINION, AND ASSUMPTION INTO FACTS



TRADITIONAL THINKING

MAKE A MENTAL NOTE OF WHAT YOU SEE FIRST



TRADITIONAL THINKING

OUR MIND FILLS IN THE GAPS

ILLUSTRATING TO
CONCLUSIONS

TRADITIONAL THINKING

CAN BE BASED ON...

1. Assumption
2. Opinion
3. Gut feeling
4. Tribal Knowledge
5. Emotion
6. Perception

IUMRING TO
GQNGIUSIQNS

TRADITIONAL THINKING

THIS CAN RESULT IN CREATING BIG PLANS BASED ON THE UNKNOWN

1. Assumption
2. Opinion
3. Gut feeling
4. Tribal Knowledge
5. Emotion
6. Perception



SCIENTIFIC THINKING

IS NOT NATURAL

6 Key Elements

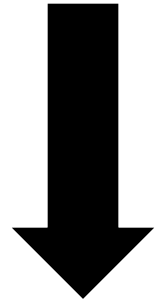
1. **Curious** – Motivated to learn
2. **Methodical** – Systematic approach (PDCA/PDSA)
3. **Evidence based** – Focus on facts
4. **Specific** – Clear and focused
5. **Hypothesis driven** – Testable and falsifiable; you have intent for taking the action
6. **Learning** – Building new knowledge



**PRACTICE
ROUTINES**

*Can help
you develop*

**SCIENTIFIC
THINKING**



KATA



What we
expect
to happen



What
actually
happened

WHAT IS KATA?

WHAT IS KATA?

KATA IS A SKILL BUILDING PROCESS TO DEVELOP A SCIENTIFIC MINDSET

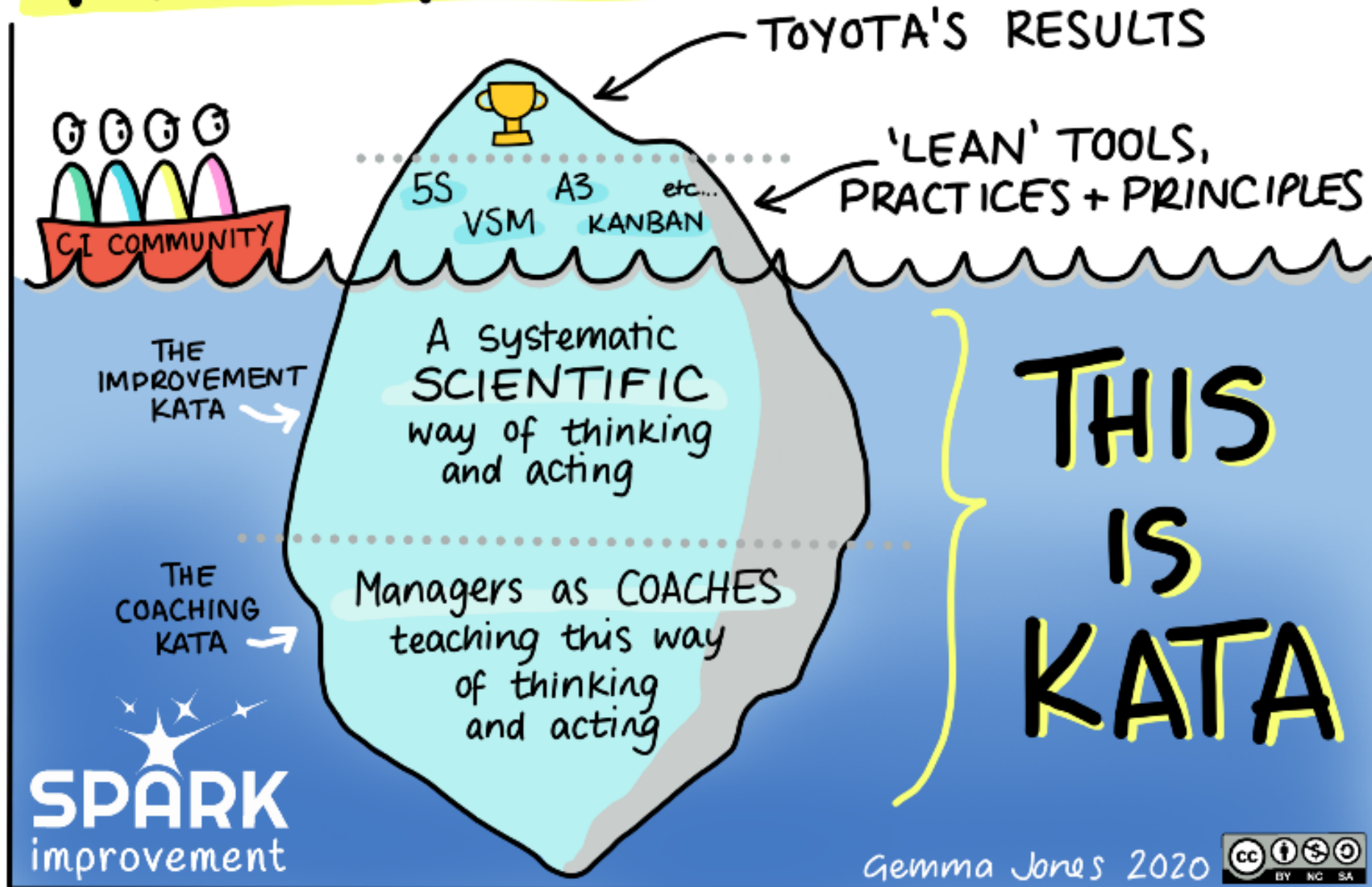


CONFIDENTIAL

© UNIVERSITY OF UTAH HEALTH

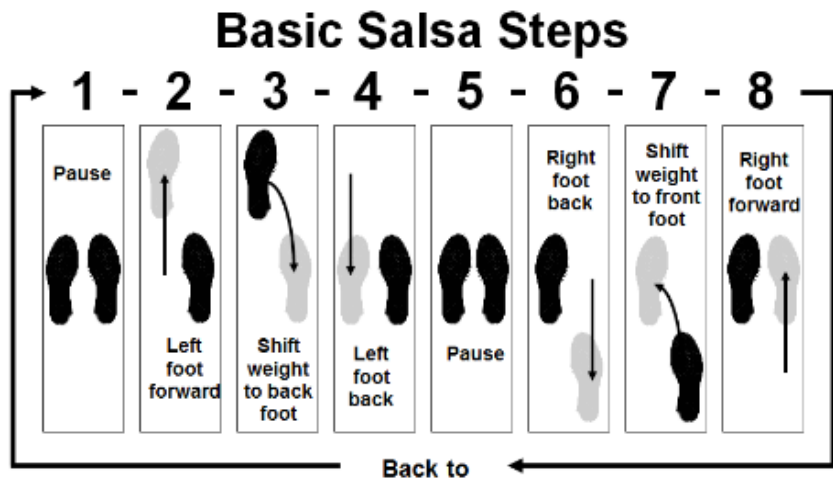
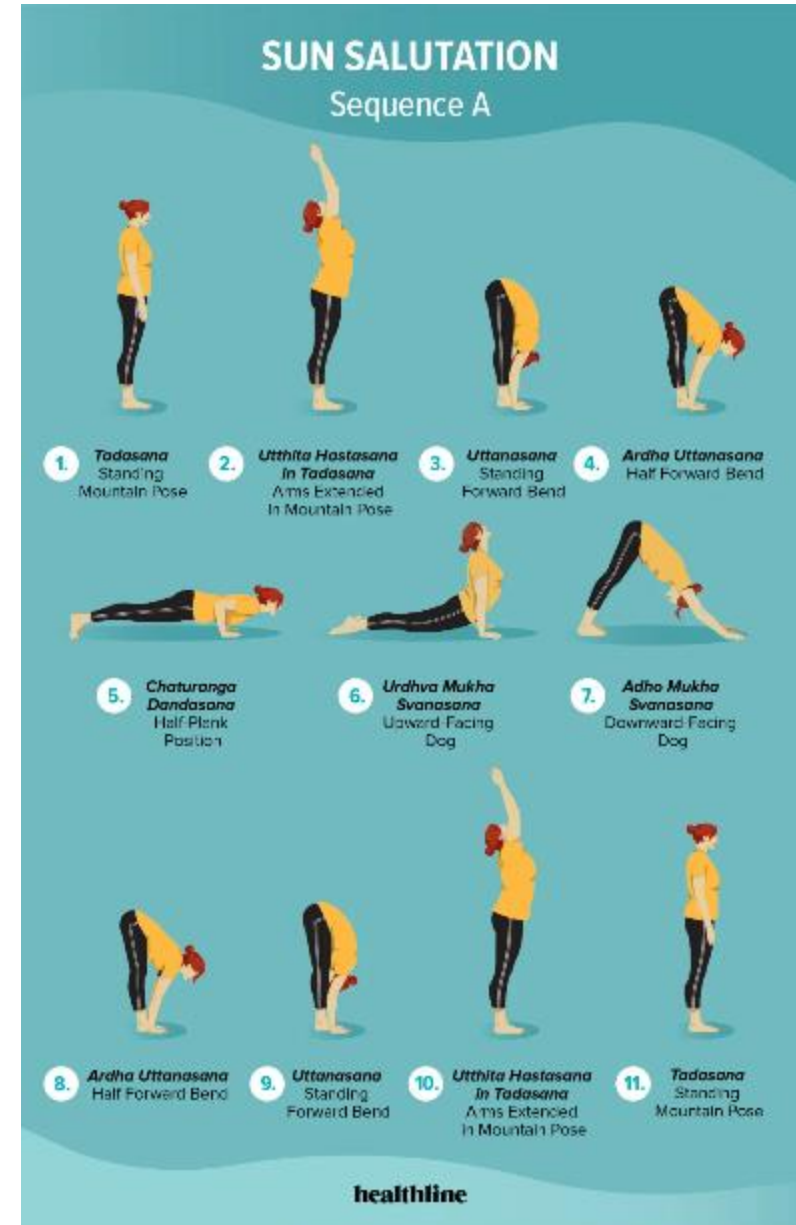
WHAT IS KATA?

SOURCE: MIKE ROTHER, TOYOTA KATA 2010



KATA EXAMPLES

A ROUTINE YOU DELIBERATELY PRACTICE TO DEVELOP NEW SKILLS AND HABITS



THE 4 STEPS OF THE IMPROVEMENT KATA

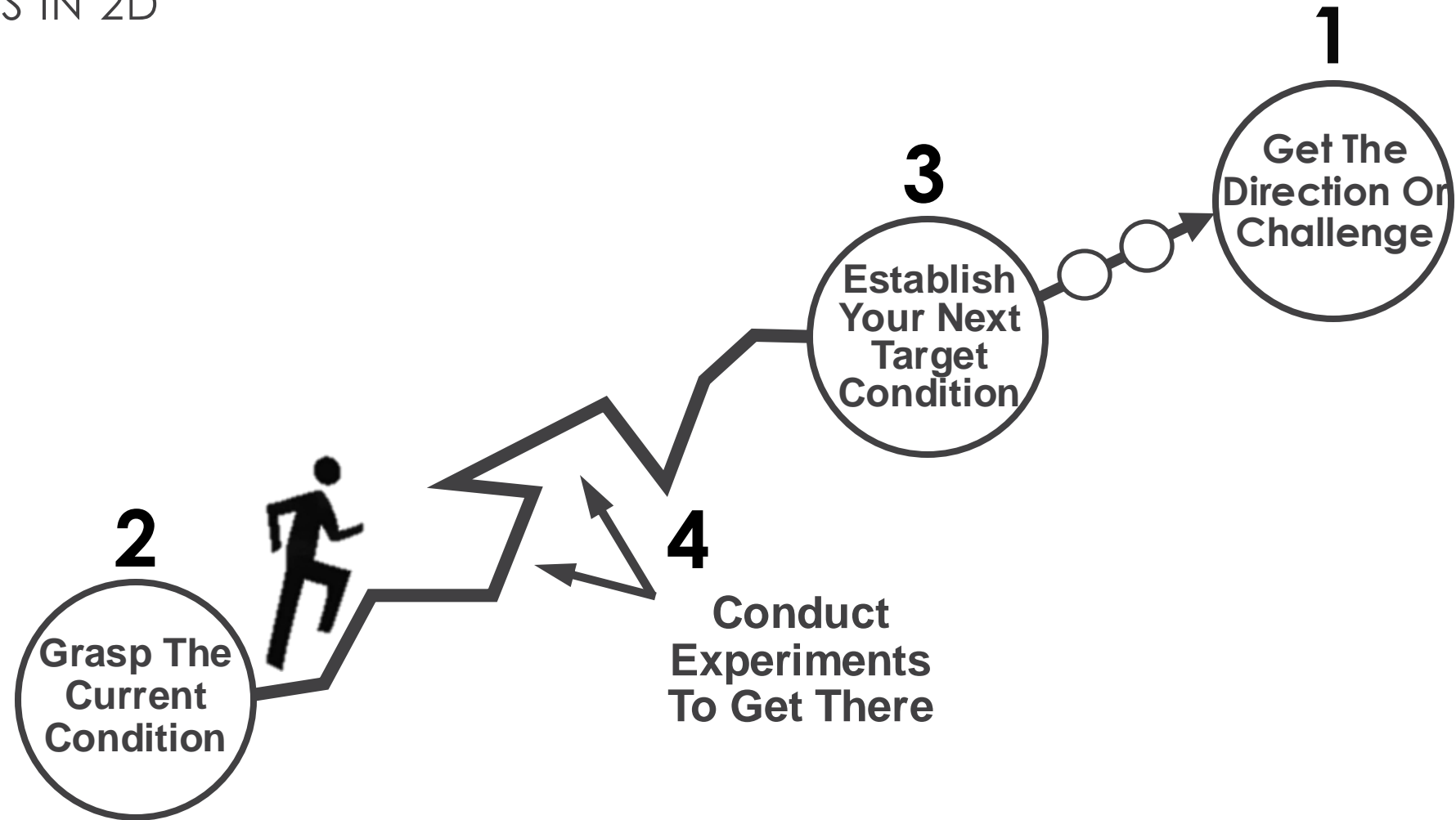
DRAWN BY GEMMA JONES

BASED ON THE WORK OF MIKE ROTHER
TOYOTA KATA PRACTICE GUIDE, 2018



IMPROVEMENT KATA

THE 4 STEPS IN 2D



IMPROVEMENT KATA

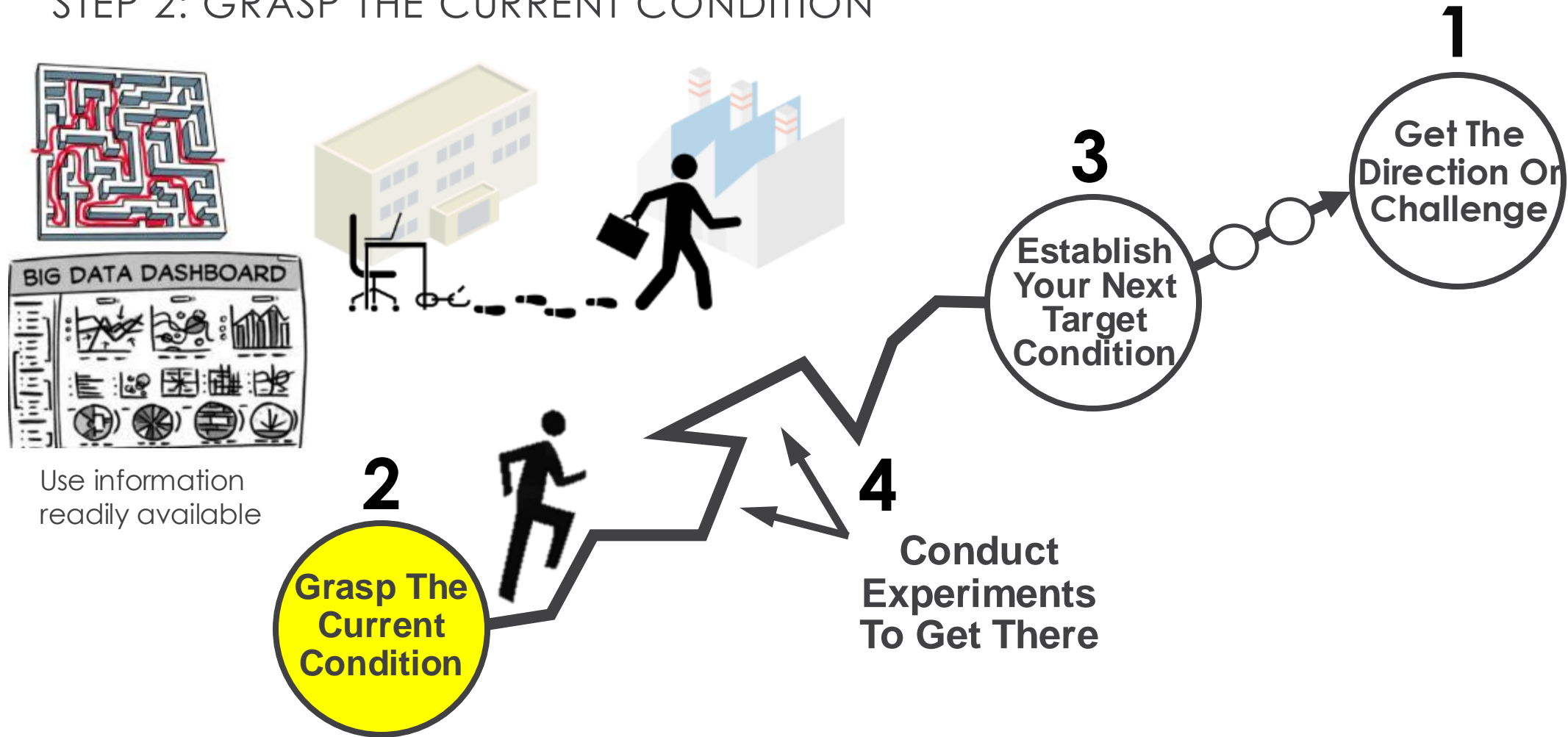
STEP 1: GET THE DIRECTION OR CHALLENGE

Question:
"Wouldn't it be great if?"



IMPROVEMENT KATA

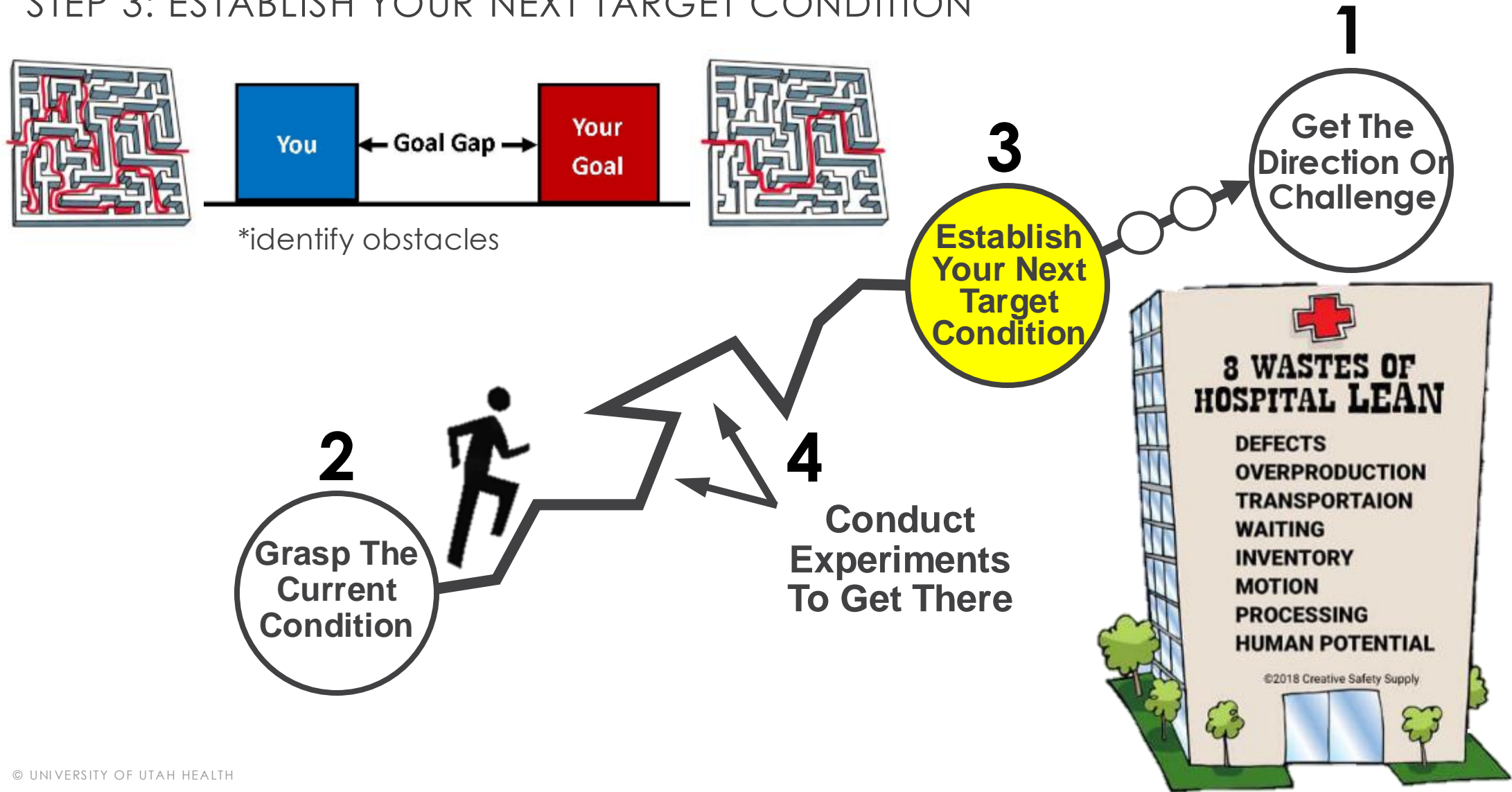
STEP 2: GRASP THE CURRENT CONDITION



Use information readily available

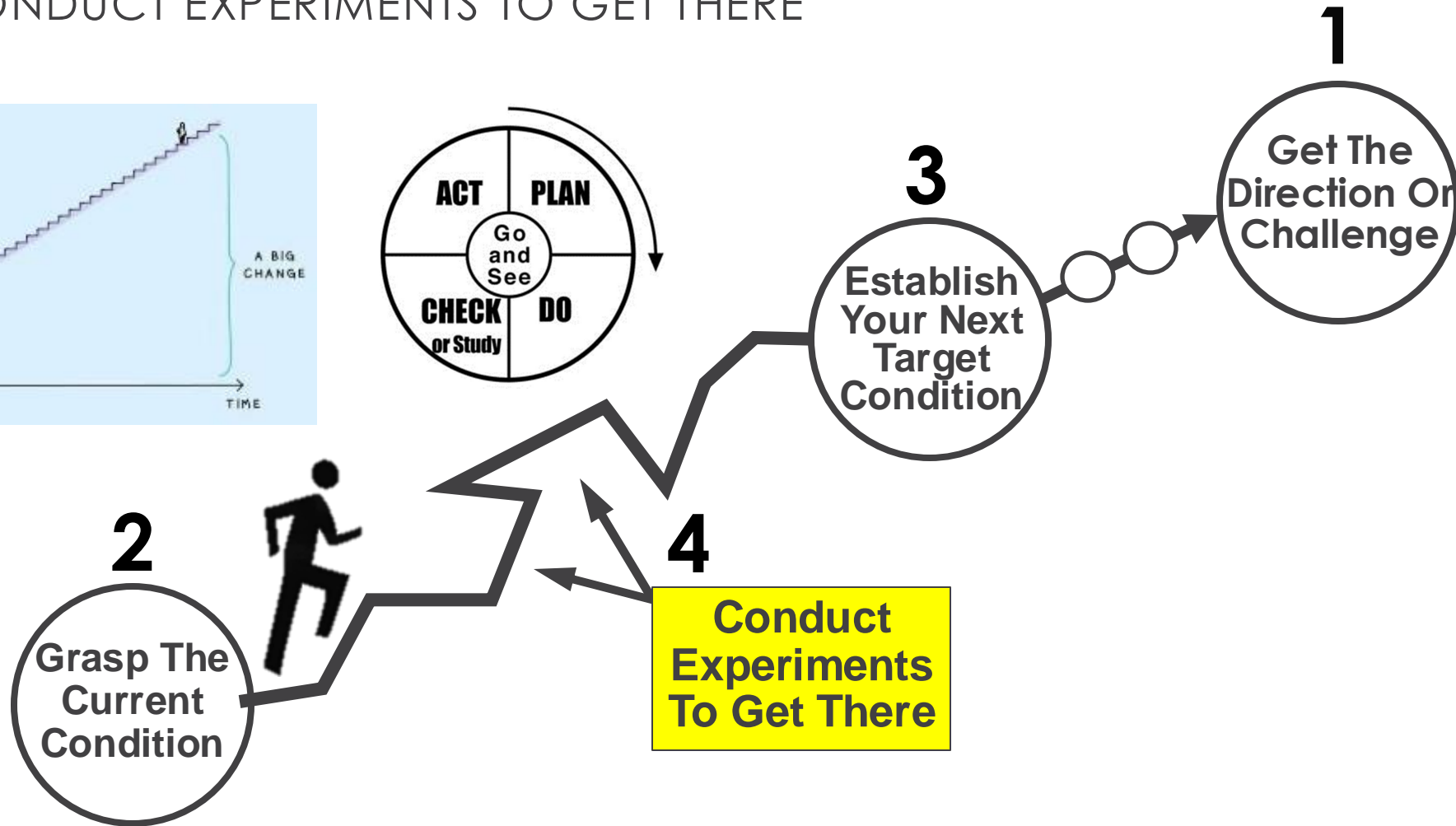
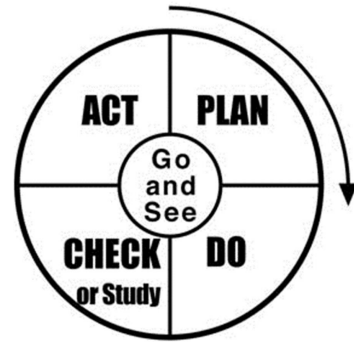
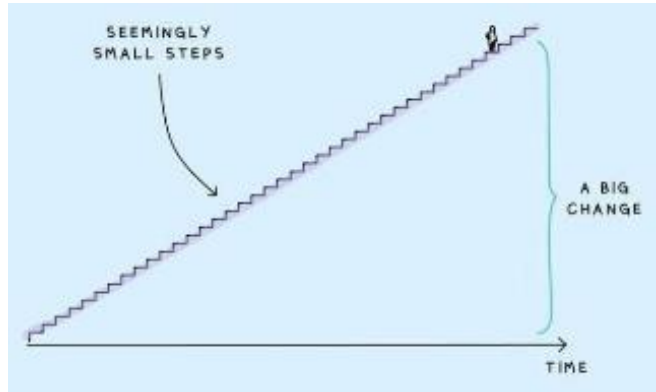
IMPROVEMENT KATA

STEP 3: ESTABLISH YOUR NEXT TARGET CONDITION



IMPROVEMENT KATA

STEP 4: CONDUCT EXPERIMENTS TO GET THERE



WHAT IS AN EXPERIMENT?

An action which increases our knowledge about the situation

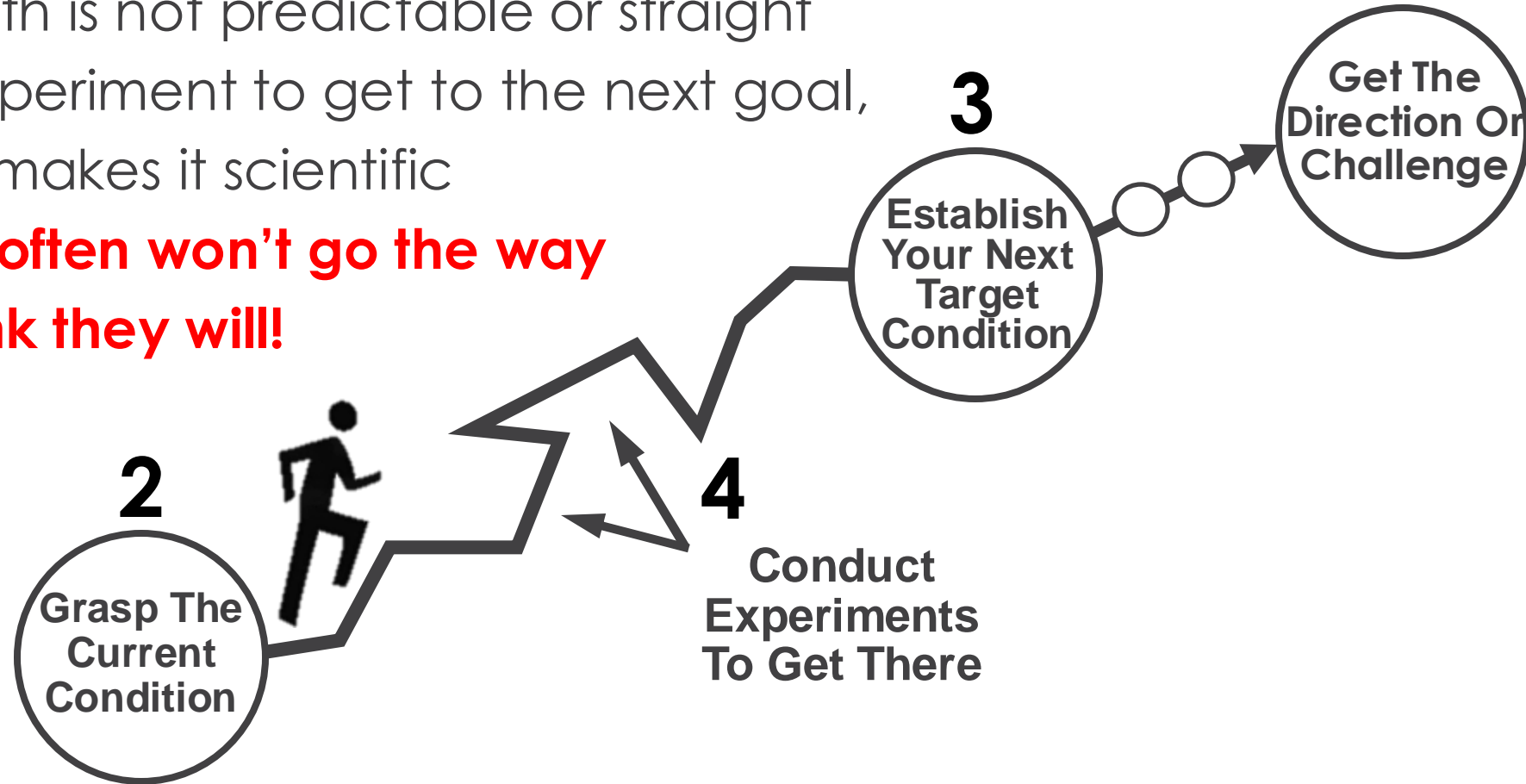
Types of Experiments

- 1. Go and See**
 - What's actually happening now?
- 2. Exploratory Experiments**
 - What would happen if we ran the target process condition?
- 3. Testing a Hypothesis**
 - Experimenting with a single change to overcome an obstacle



IMPROVEMENT KEY POINTS

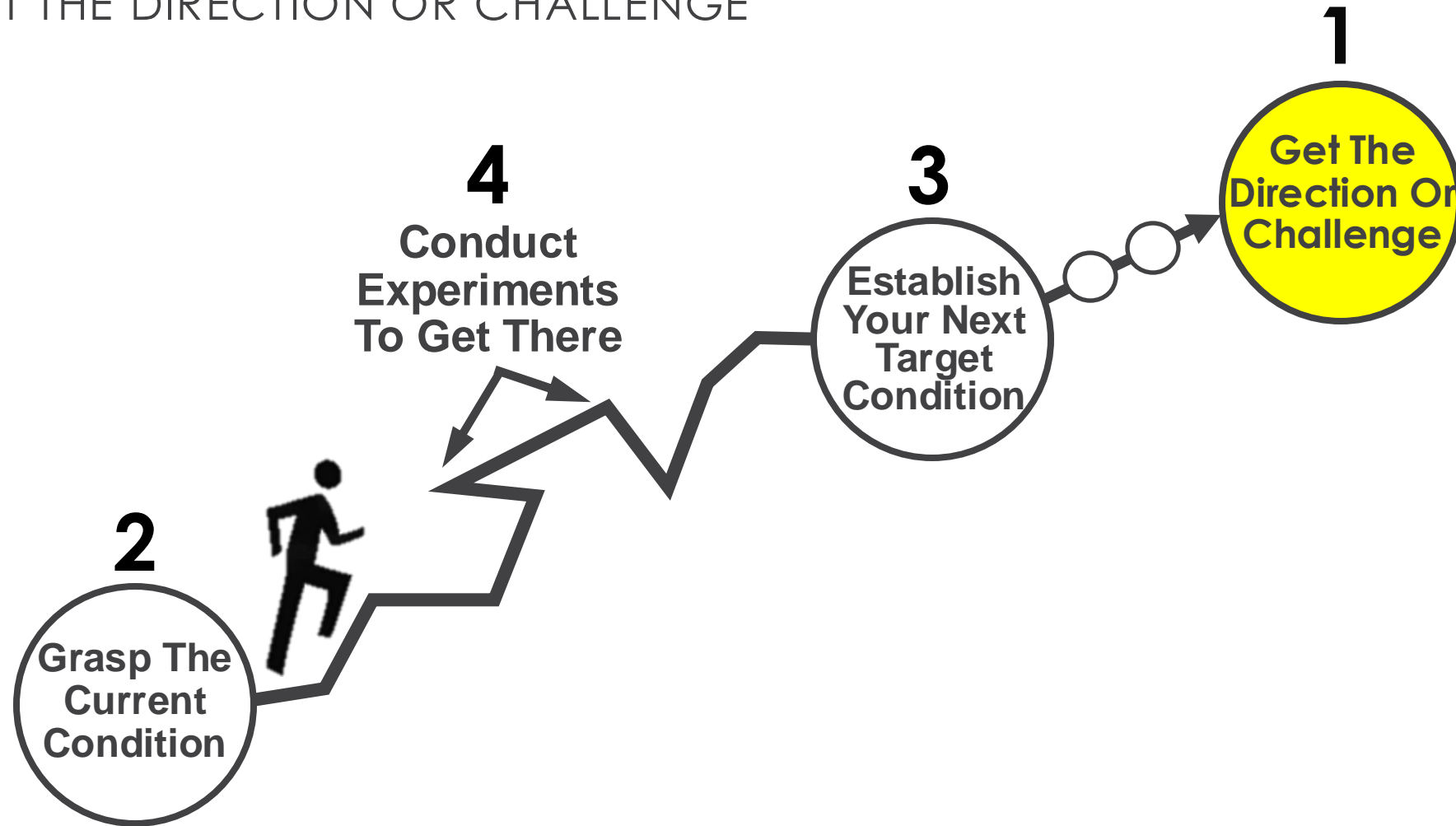
- You don't have to reach the overall challenge right away **1**
- The path is not predictable or straight
- You experiment to get to the next goal, which makes it scientific
- **Things often won't go the way we think they will!**



EXAMPLE 1: THIS PRESENTATION

Challenge
Create a high-quality
60-min training on
Improvement Kata

STEP 1: GET THE DIRECTION OR CHALLENGE



EXAMPLE 1: THIS PRESENTATION

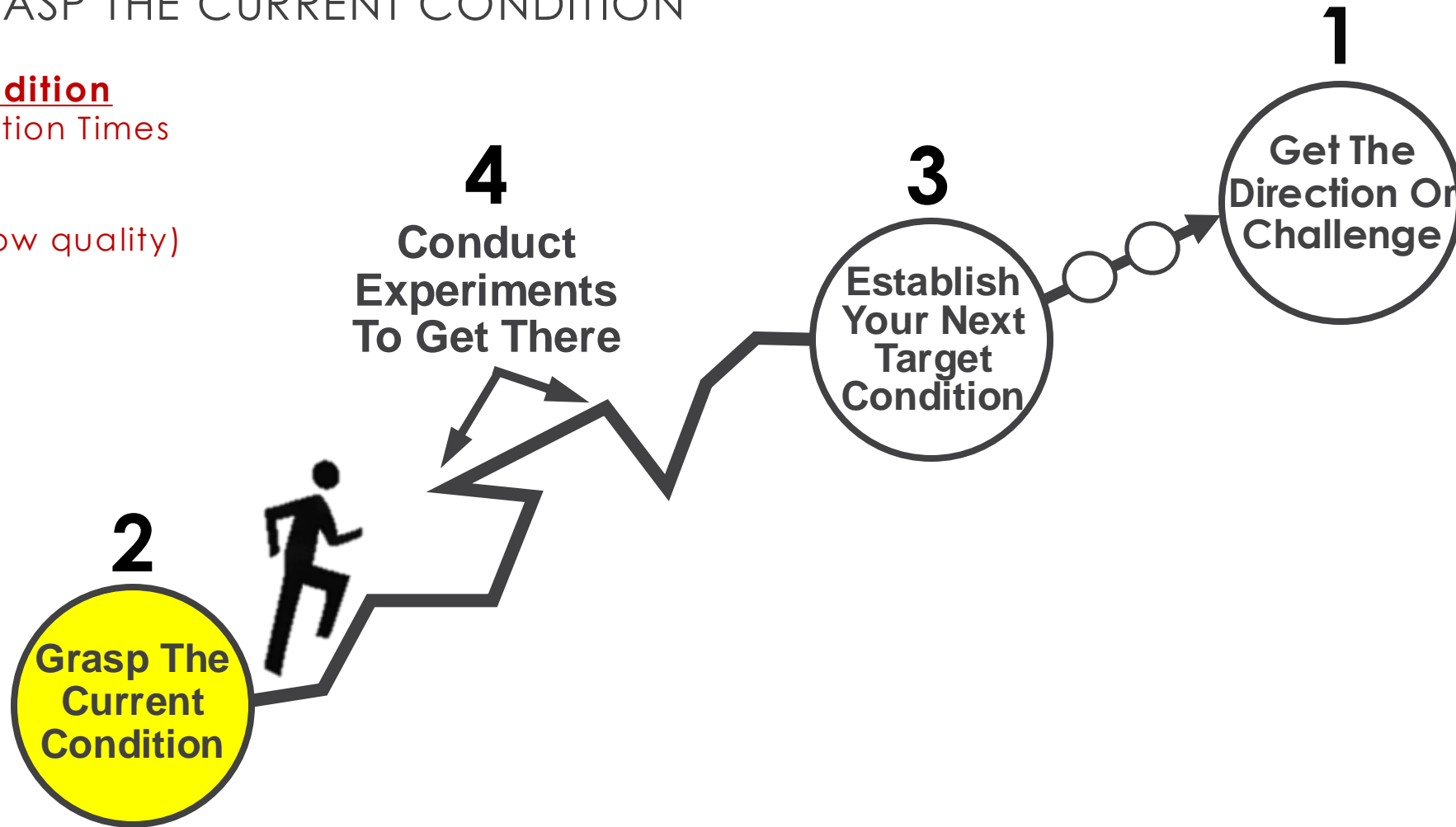
Challenge
Create a high-quality
60-min training on
Improvement Kata

STEP 2: GRASP THE CURRENT CONDITION

Current Condition

Past Presentation Times

- 240-mins
- 360-mins
- 60-mins (low quality)



EXAMPLE 1: THIS PRESENTATION

Challenge
Create a high-quality
60-min training on
Improvement Kata

STEP 3: ESTABLISH YOUR NEXT TARGET CONDITION

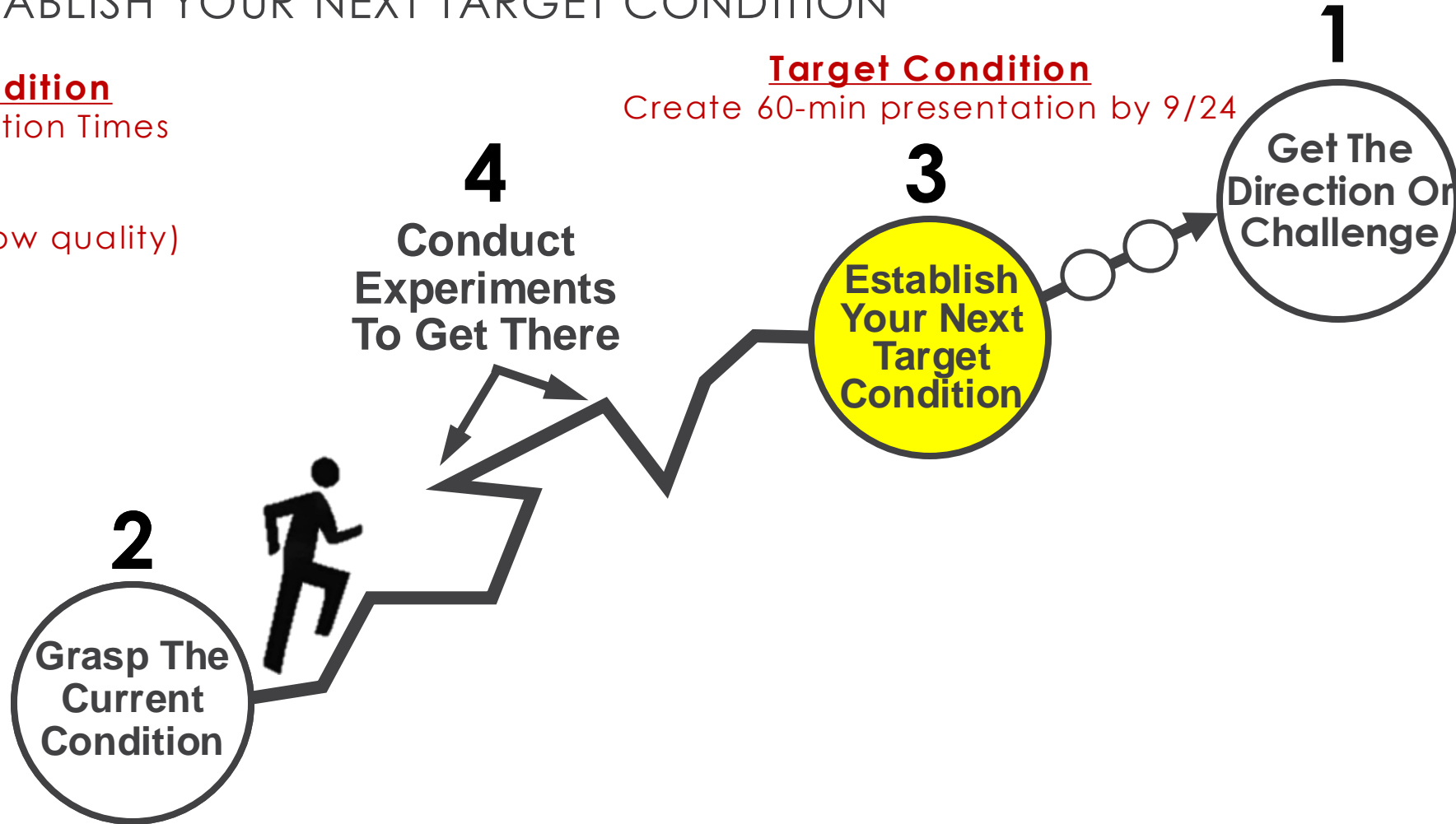
Current Condition

Past Presentation Times

- 240-mins
- 360-mins
- 60-mins (low quality)

Target Condition

Create 60-min presentation by 9/24



EXAMPLE 1: THIS PRESENTATION

Challenge
Create a high-quality
60-min training on
Improvement Kata

STEP 4: CONDUCT EXPERIMENTS TO GET THERE

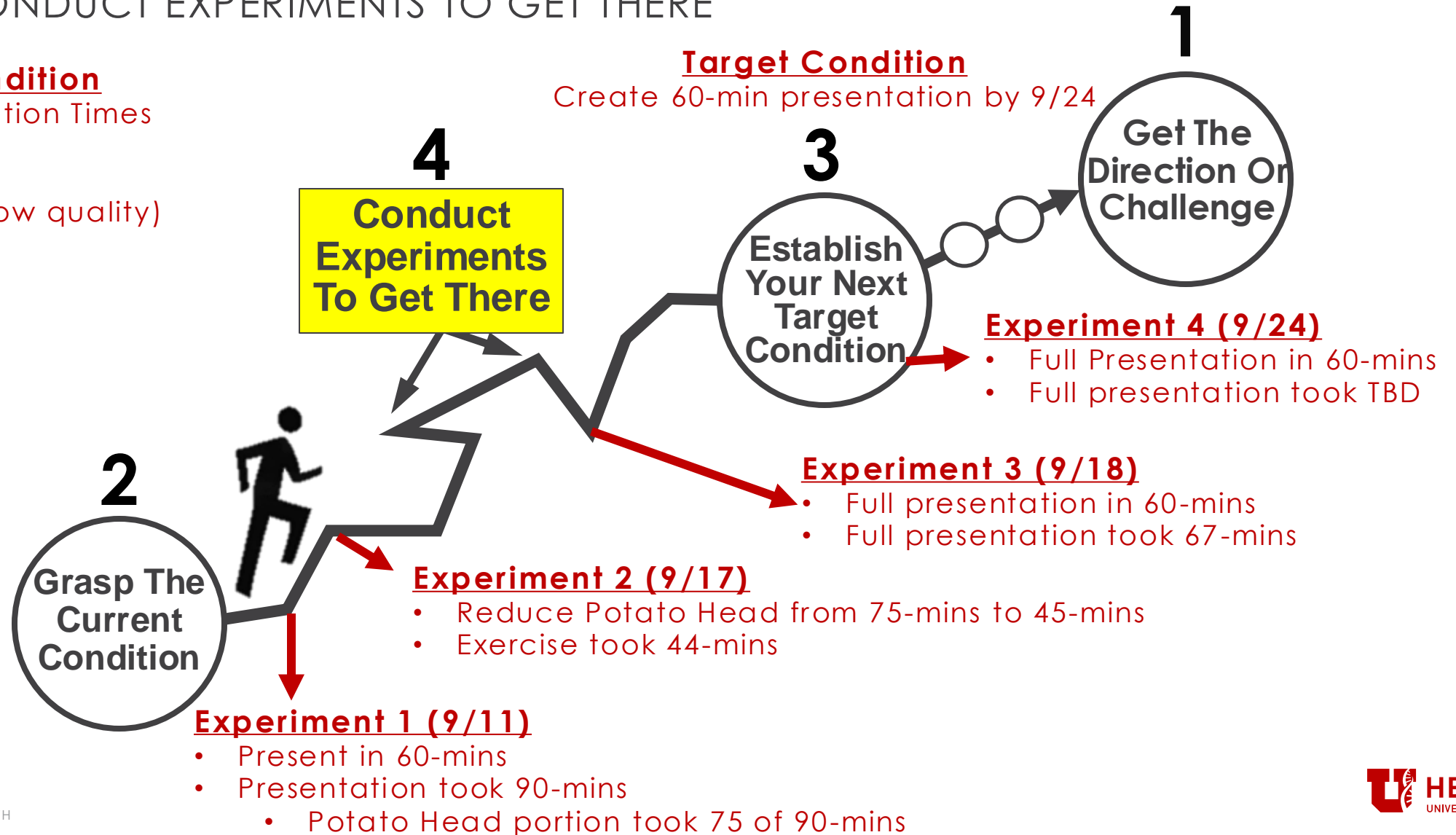
Current Condition

Past Presentation Times

- 240-mins
- 360-mins
- 60-mins (low quality)

Target Condition

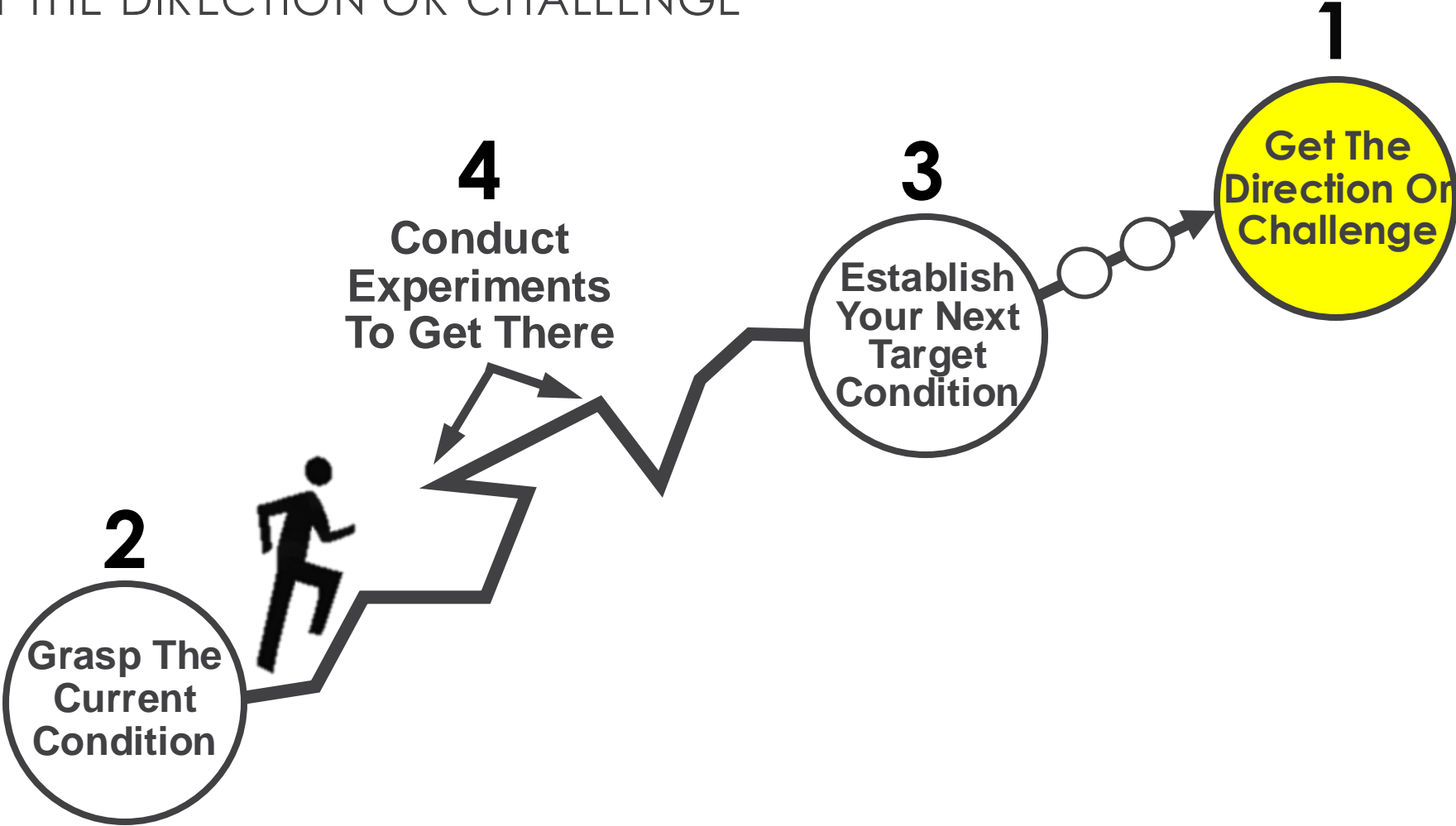
Create 60-min presentation by 9/24



EXAMPLE 2: FITTED SHEETS

STEP 1: GET THE DIRECTION OR CHALLENGE

Challenge
Have sheets that fit
our beds

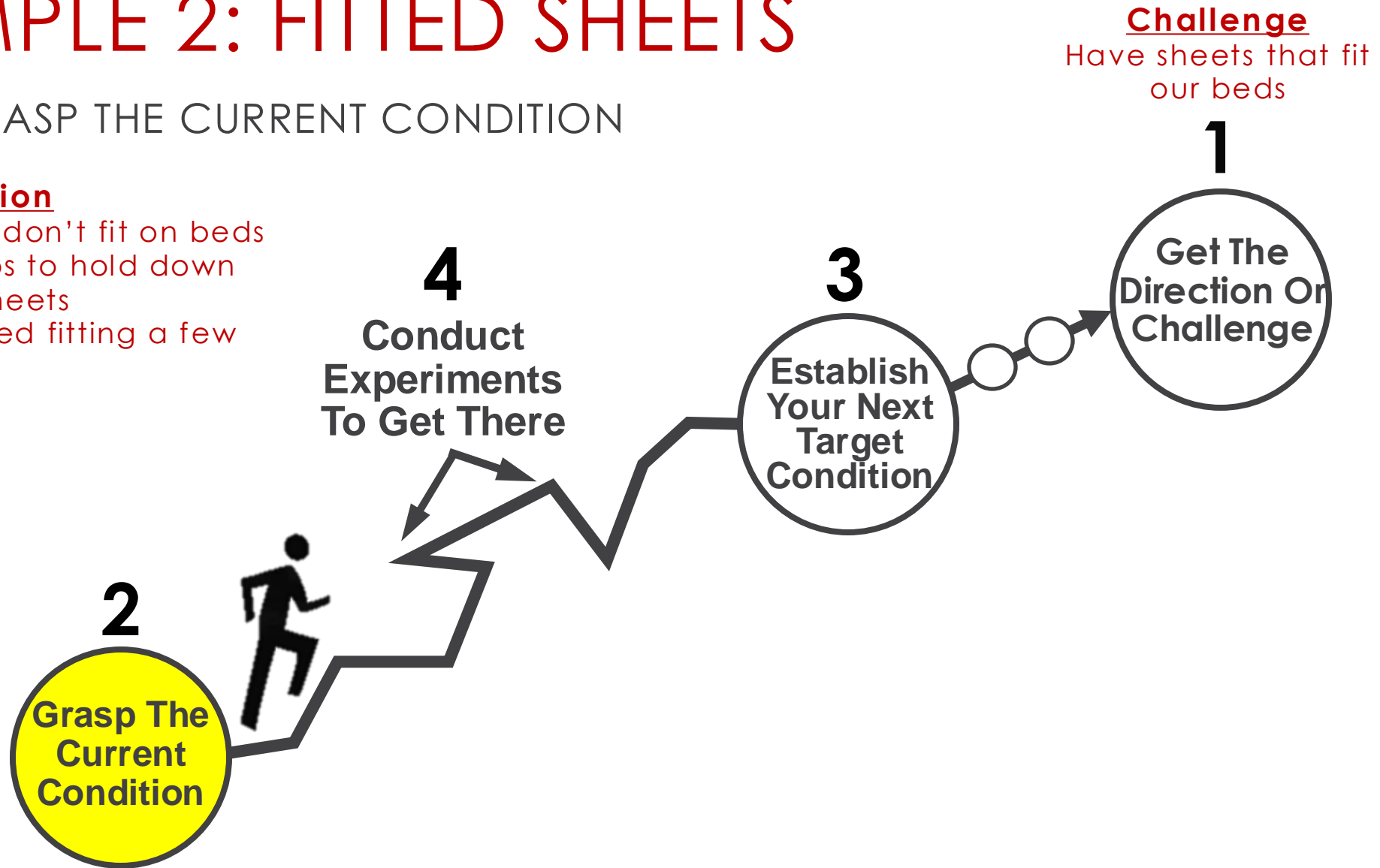


EXAMPLE 2: FITTED SHEETS

STEP 2: GRASP THE CURRENT CONDITION

Current Condition

- Fitted sheets don't fit on beds
- Hook to knobs to hold down
- Knobs tear sheets
- Sheets stopped fitting a few months ago



EXAMPLE 2: FITTED SHEETS

STEP 3: ESTABLISH YOUR NEXT TARGET CONDITION

Current Condition

- Fitted sheets don't fit on beds
- Hook to knobs to hold down
- Knobs tear sheets
- Sheets stopped fitting a few months ago

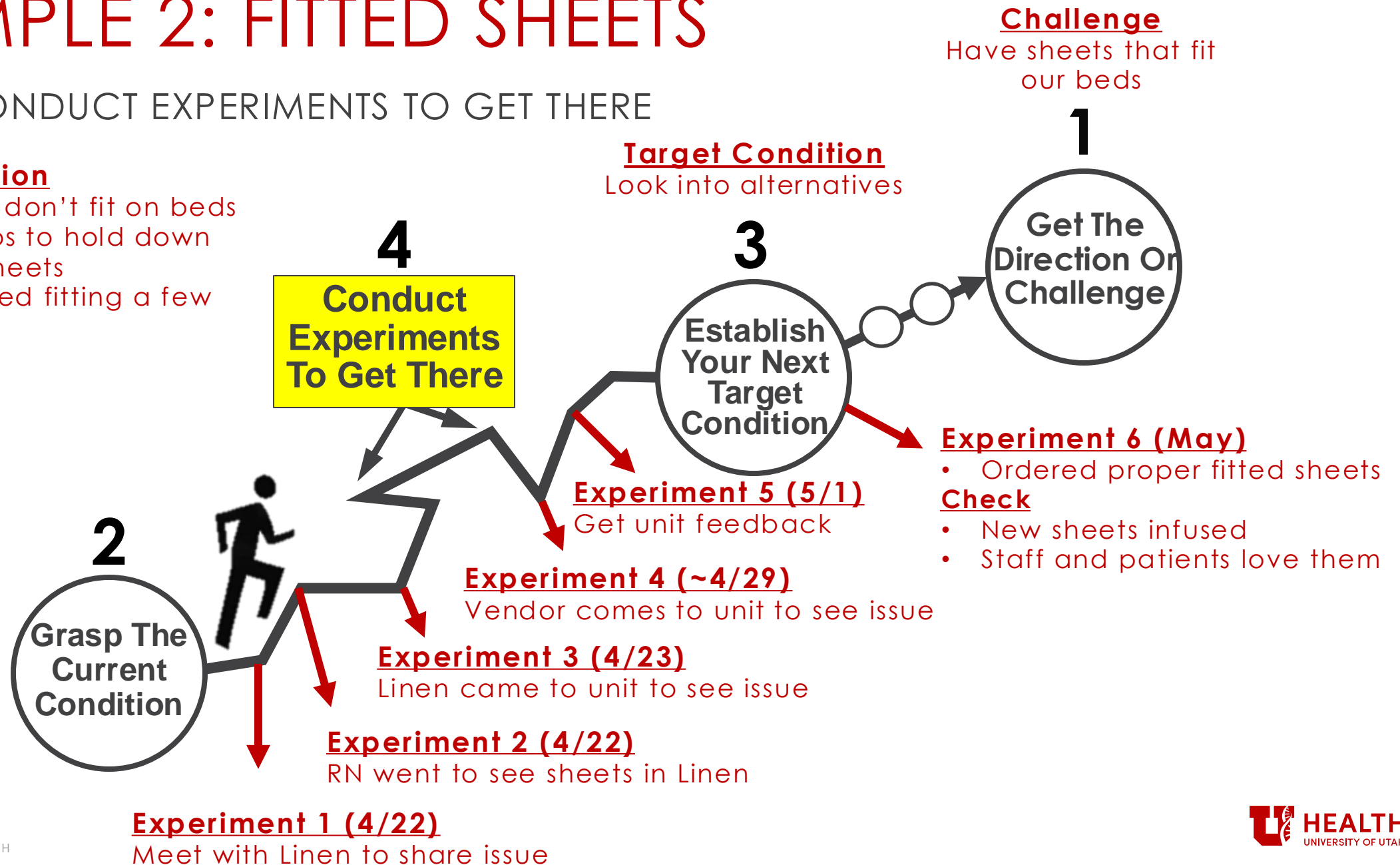


EXAMPLE 2: FITTED SHEETS

STEP 4: CONDUCT EXPERIMENTS TO GET THERE

Current Condition

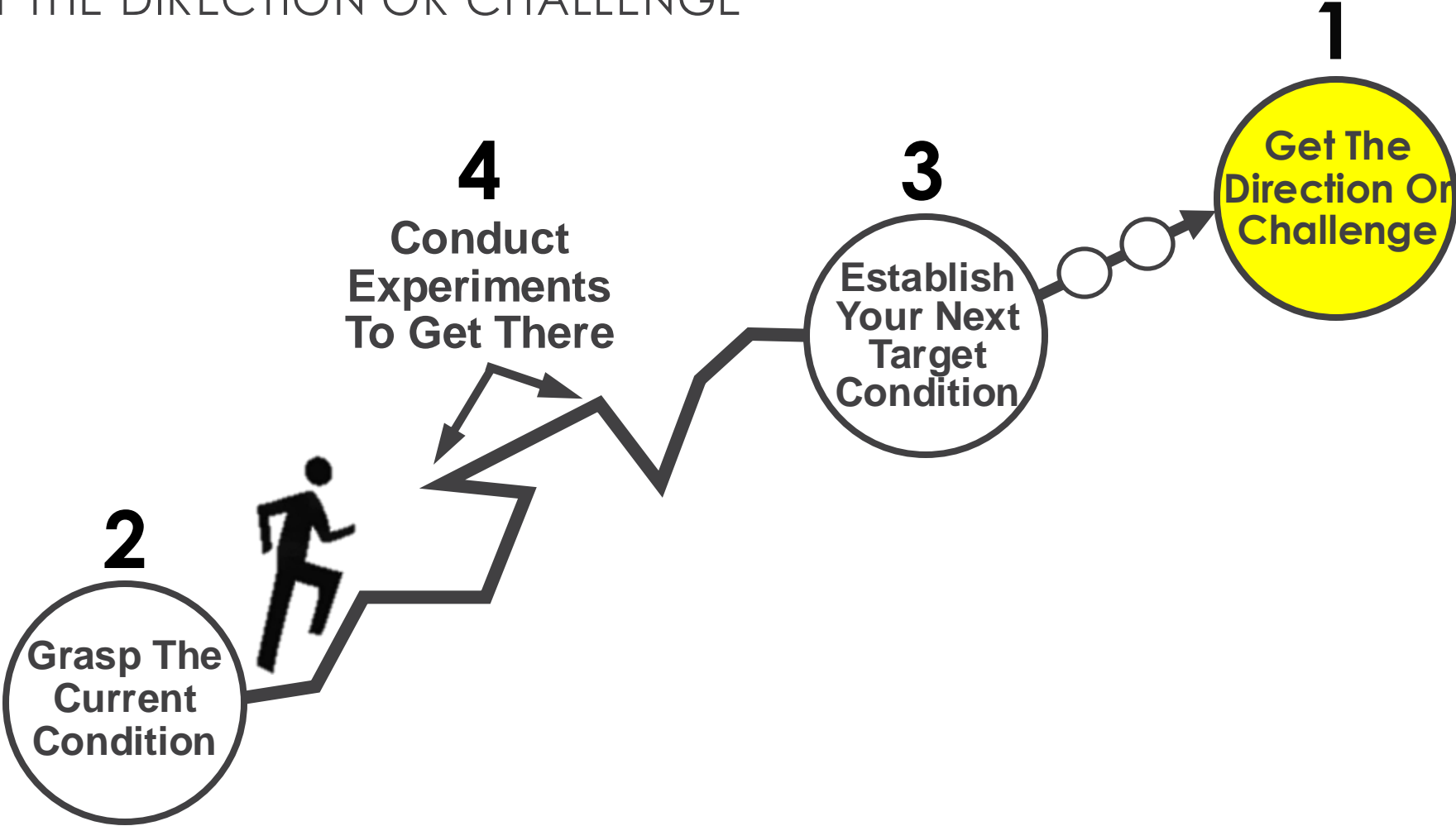
- Fitted sheets don't fit on beds
- Hook to knobs to hold down
- Knobs tear sheets
- Sheets stopped fitting a few months ago



EXAMPLE 3: LAB ERRORS

STEP 1: GET THE DIRECTION OR CHALLENGE

Challenge
Reduce Total Lab Errors by 50%

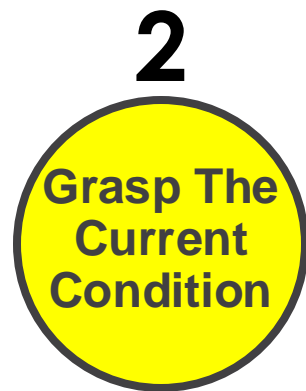
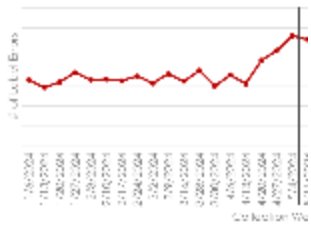


EXAMPLE 3: LAB ERRORS

STEP 2: GRASP THE CURRENT CONDITION

Current Condition

- Labeling >80% of all errors
- 1 unit >50% of all labeling errors
- Multiple training documents
- Multiple ways to mislabel



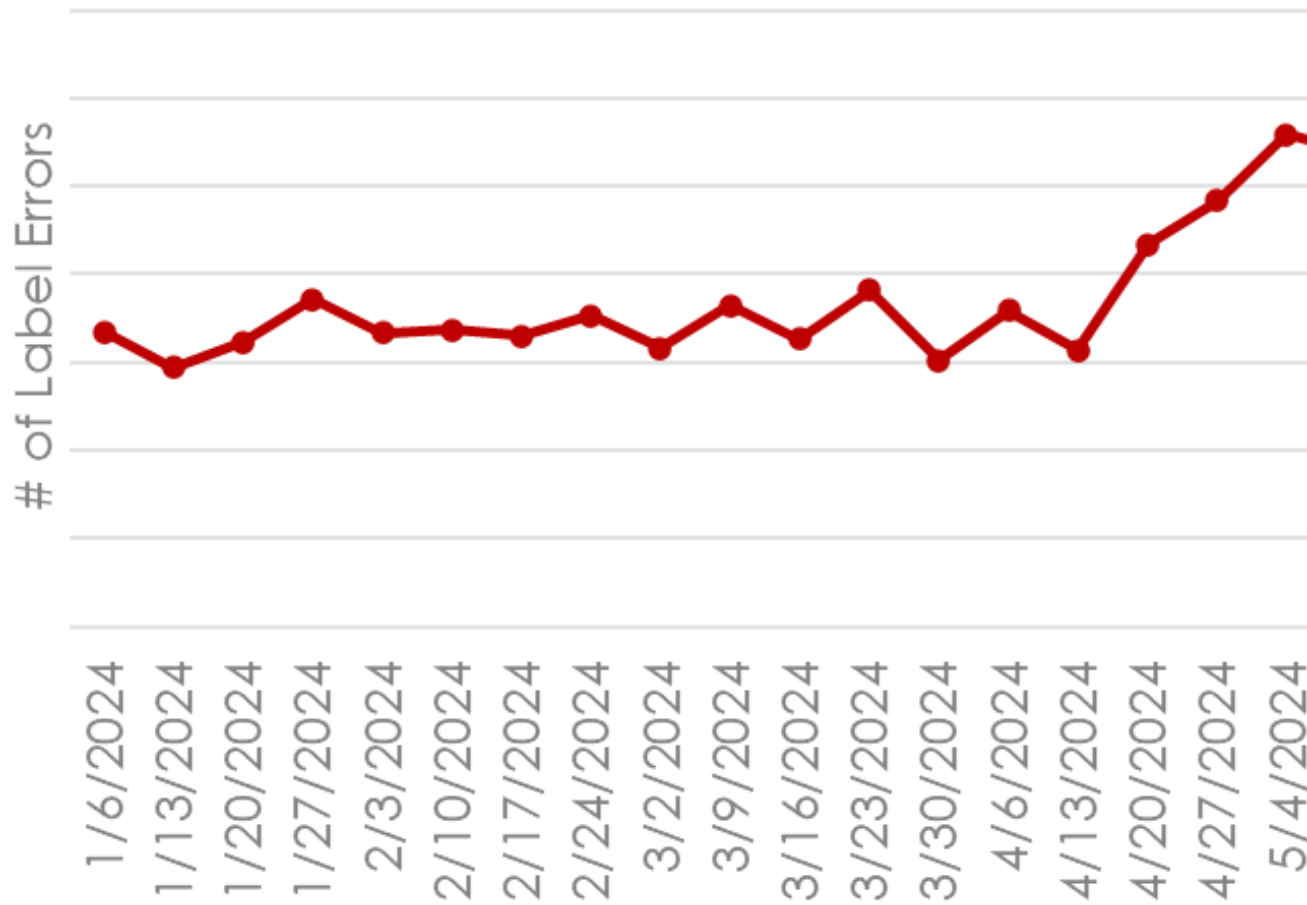
Challenge
Reduce Total Lab Errors by 50%

1

Get The Direction Or Challenge

EXAMPLE 3: LAB ERRORS

STEP 2: GRASP THE CURRENT CONDITION



PROPER LABELING

Best Dressed

Properly Labeled Peter and Patricia



Worst Dressed

Wrinkled Wreck

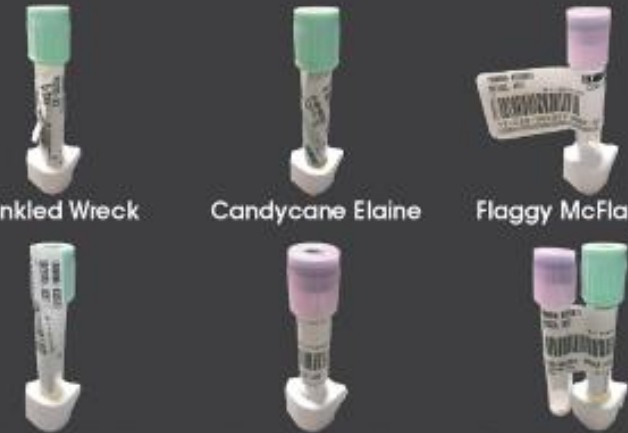
Candycane Elaine

Flaggy McFlagster

Turtleneck Nellie

Wrap Around Gal

Bonnie and Clyde

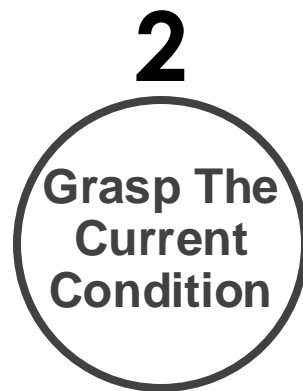


EXAMPLE 3: LAB ERRORS

STEP 3: ESTABLISH YOUR NEXT TARGET CONDITION

Current Condition

- Labeling >80% of all errors
- 1 unit >50% of all errors
- Multiple training documents
- Multiple ways to mislabel



Target Condition
Reduce Label Errors by 50% in Area A



Challenge
Reduce Total Lab Errors by 50%

1

Get The Direction Or Challenge

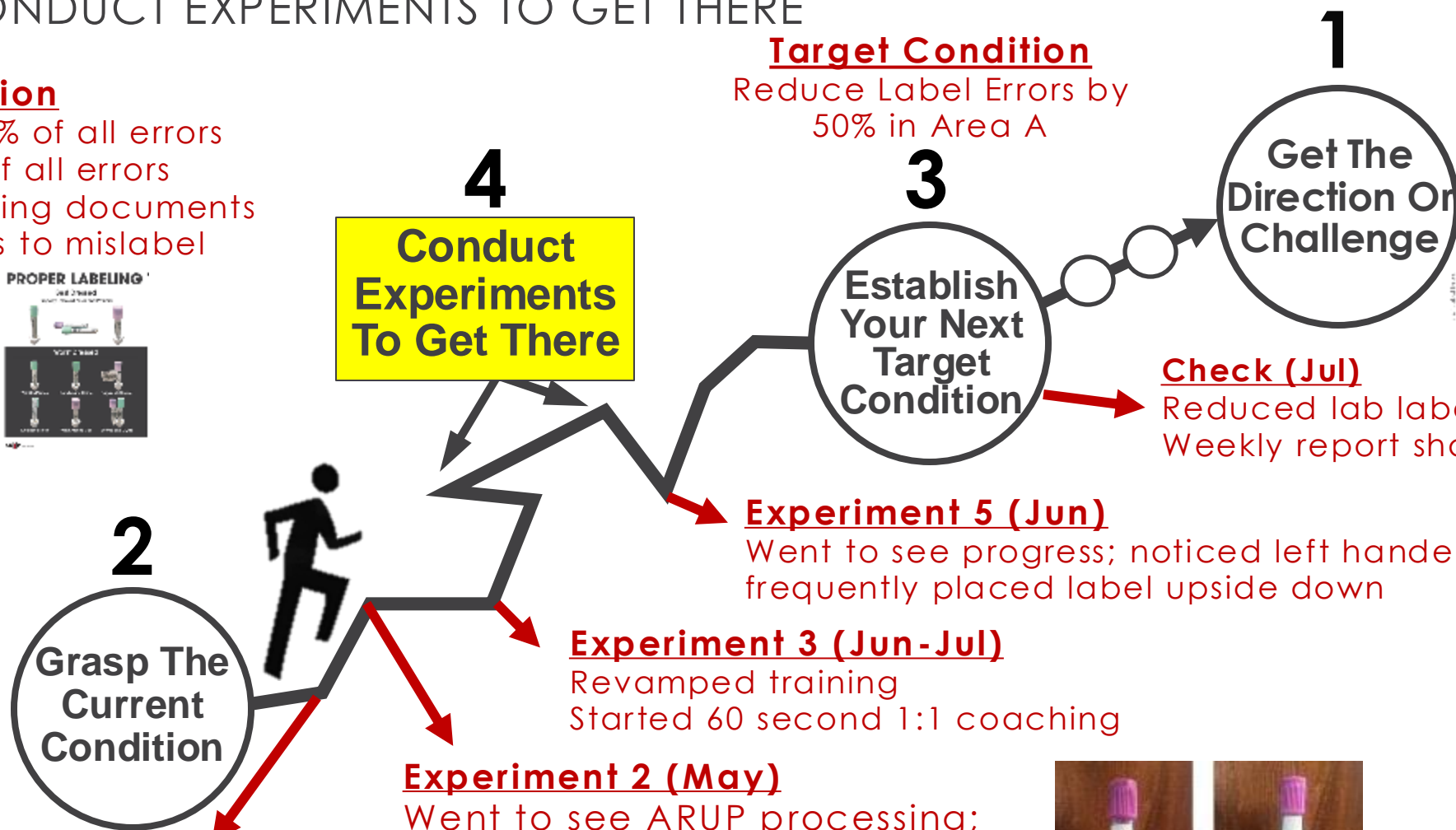
EXAMPLE 3: LAB ERRORS

STEP 4: CONDUCT EXPERIMENTS TO GET THERE

Challenge
Reduce Total Lab Errors by 50%

Current Condition

- Labeling >80% of all errors
- 1 unit >50% of all errors
- Multiple training documents
- Multiple ways to mislabel



Target Condition
Reduce Label Errors by 50% in Area A

3
Establish Your Next Target Condition

Check (Jul)
Reduced lab label errors by >69%
Weekly report shared with units

Experiment 5 (Jun)
Went to see progress; noticed left handers frequently placed label upside down

Experiment 3 (Jun-Jul)
Revamped training
Started 60 second 1:1 coaching

Experiment 2 (May)
Went to see ARUP processing; upside down labels identified

Experiment 1 (May)
Communicated proper way to label



EXAMPLE 3: LAB ERRORS

STEP 4: CONDUCT EXPERIMENTS TO GET THERE



PROPER LABELING TECHNIQUE

Best Dressed
Properly Labeled Peter and Patricia

Worst Dressed

- Wrinkled Wreck
- Candycane Elaine
- Flaggy McFlagster
- Turtleneck Nellie
- Wrap Around Gal
- Bonnie and Clyde

Beaker Labels
"Name at the Cap"

1. Hold the tube by the cap in your left hand as pictured.
2. With your right hand, place the label so it reads left to right on the tube, with the name at the cap, as demonstrated.
3. Ensure the label is placed over the manufacturer's label as much as possible. This allows for a window to view how much specimen each tube contains.

ARUP LABORATORIES

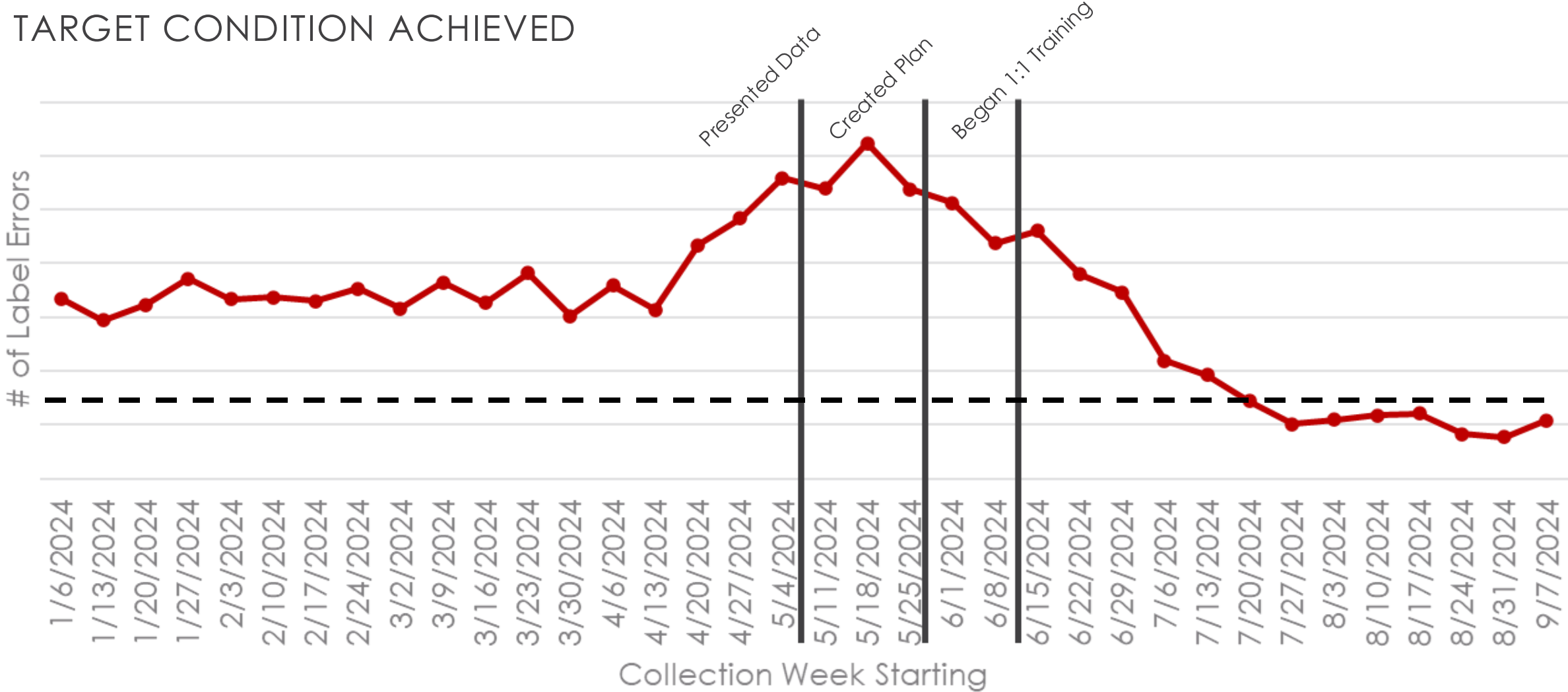
U HEALTH UNIVERSITY OF UTAH



*Incorrectly labeled tubes cannot be read by the scanner inside the lab track system and must be relabeled

EXAMPLE 3: LAB ERRORS

TARGET CONDITION ACHIEVED



COACHING KATA

EVEN THE GREATS HAVE COACHES

EVERYBODY NEEDS A COACH



COACHING KATA

THE FIVE QUESTIONS



REFLECTION

**Ask these questions
after each experiment**

- 1) What is your Target Condition?**
- 2) Where are you now?**
- 3) What did you plan to try
in your last step?** What did you expect?
- 4) What was the result? (*change*)**
- 5) What did you learn?**
- 6) What is your next experiment?
(*read*)**

Kata in the Classroom / katatogrow.com

LET'S LEARN BY DOING...

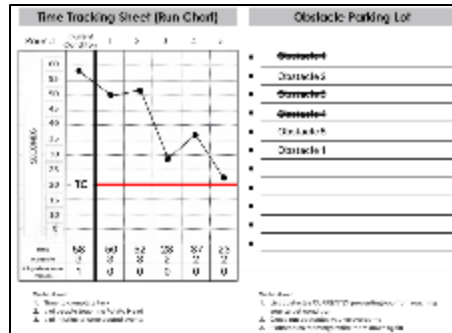
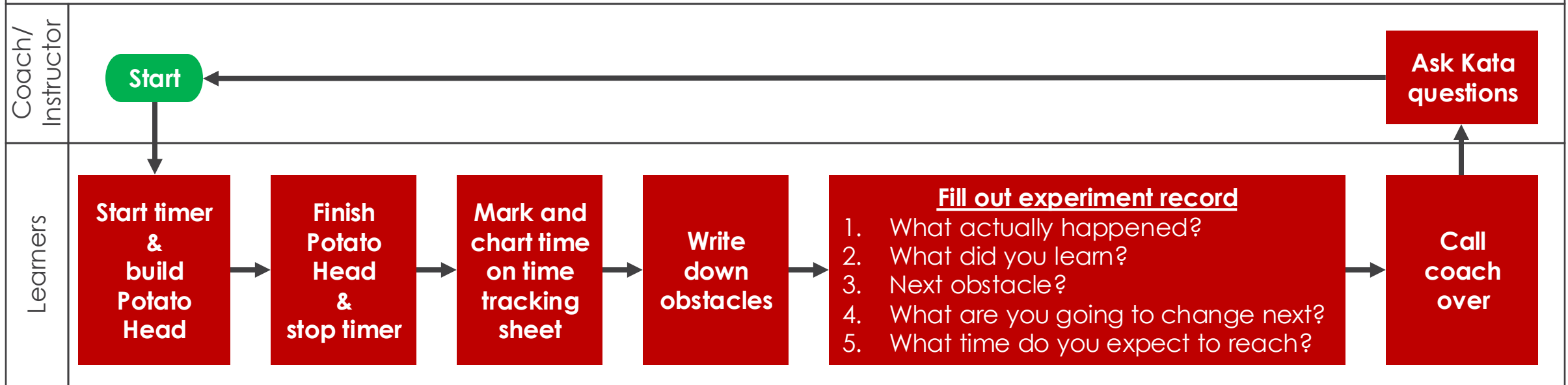


For this exercise we'll build this Potato Head several times and experiment with ways to do it faster



THE POTATO HEAD EXERCISE

Purpose: Build the Potato Head as quickly as possible



Run	What obstacle called for you going to change next?	What did you change next?	What did you expect?	What actually happened?	What did you learn?
1	PRE-CHK	REDUCTION		EVIDENCE	INSIGHT
2					
3					
4					
5					



Ask these questions after each experiment

- 1) What is your Target Condition?
- 2) Where are you now?
- 3) What did you plan to try in your last step? (*read*)
- 4) What was the result? (*change*)
- 5) What did you learn?
- 6) What is your next experiment? (*read*)

REFLECTION

RULES

BASELINE ROUND TO DETERMINE CURRENT CONDITION



(1) **"START Position"**

- Place pieces in Potato Head
- Attach feet to body
- Hands flat on the table
- No talking, you're ready to go



(2) **All Teams Start Together**

- a. Instructor calls "START"
- b. Build the Potato Head (talking allowed)
- c. Note the elapsed time on your form

TOOLS PROVIDED

1x



1x

Time Tracking Sheet (Run Chart)		Obstacle Parking Lot				
Round	Current	1	2	3	4	5
60						
55						
50						
45						
40						
35						
30						
25						
20						
15						
10						
5						
0						

Write down:
1. Time to complete task
2. # of stops at existing obstacles (100)
3. # of times at new obstacles

Write down:
1. List obstacles in ORDERED priority of how much you struggle with them
2. Create an obstacle parking lot for each one
3. Put obstacles in order of how much you struggle with them

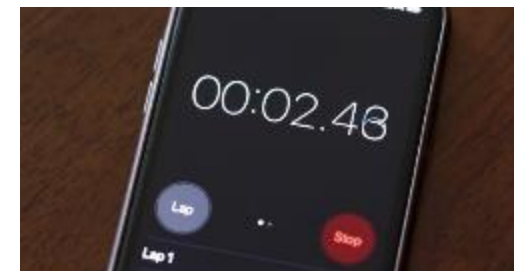
1x

PDCA/PDSA EXPERIMENTING RECORD (Each row = one experiment)						
PLAN				DO	CHECK or STUDY	
#	Obstacle	What are you going to change next?	What did you EXPECT?		What ACTUALLY HAPPENED?	What did you LEARN?
1				Perform a Coaching Cycle Do the Experiment		
ACT 2						
ACT 3						
ACT 4						
ACT 5						

1x



PEN AND STOPWATCH NOT INCLUDED



THIS ROUND WILL DETERMINE YOUR CURRENT CONDITION

YOU WILL HAVE 90 SECONDS FOR THIS ROUND

BEGIN WHEN INSTRUCTOR SAYS "START!"



Use the run chart provided

Time Tracking Sheet (Run Chart)						
Round	Current Condition	1	2	3	4	5
60	●					
55						
50						
45						
40						
35						
30						
25						
20						
15						
10						
5						
Time						
# people						
# injuries/ near misses						

Obstacle Parking Lot

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

THREE THINGS TO DO NEXT:



Choose a Team

- 2 teams per table
- 4-5 people per team



Select a Timekeeper

- Each gets a stopwatch



Pick Assemblers

- Assemble the Potato Head

TIME'S 1:30 UP

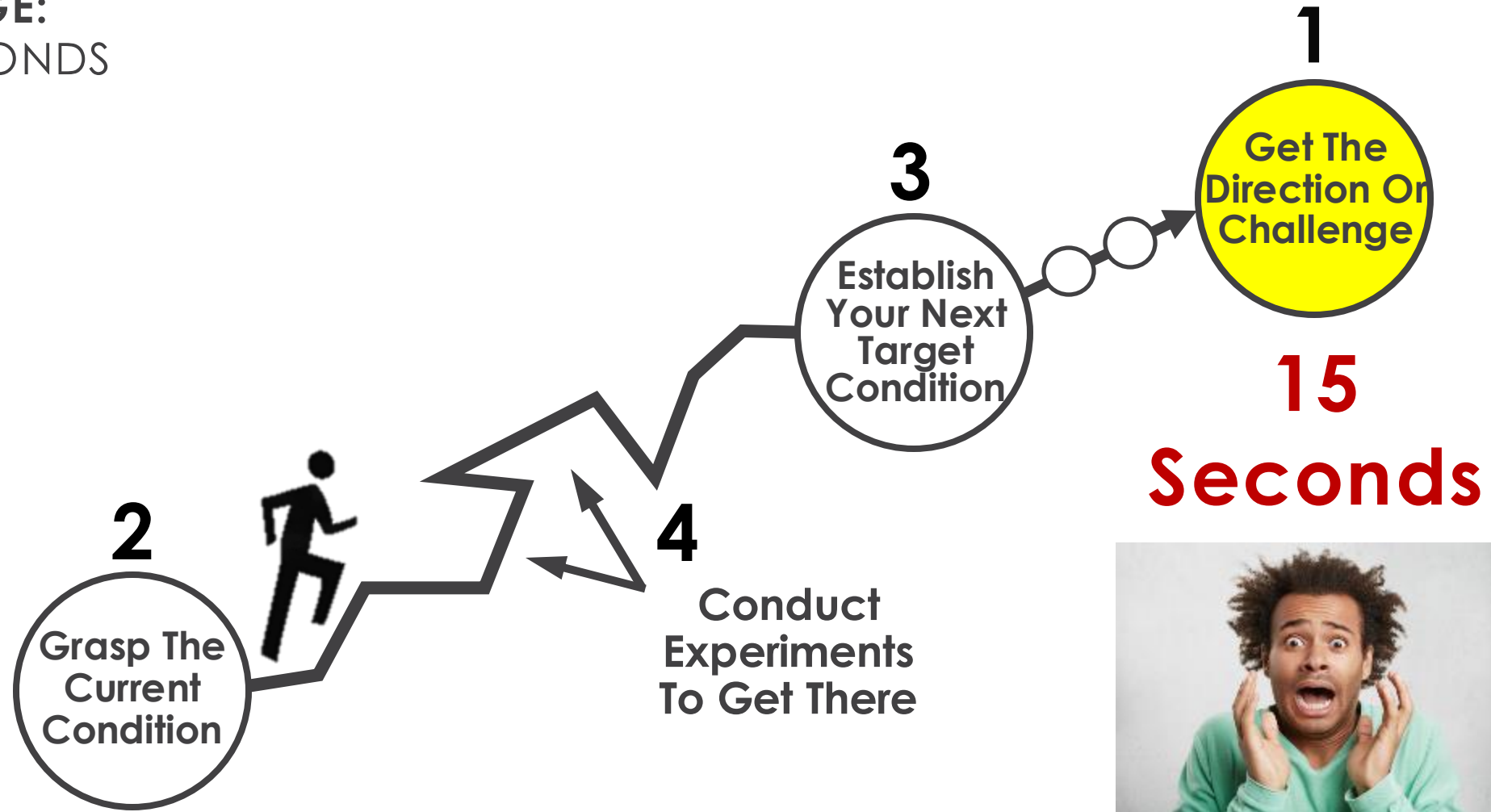


Now let's do
the **four steps** of
the Improvement Kata

STEP 1: GET THE DIRECTION OR CHALLENGE

CHALLENGE:

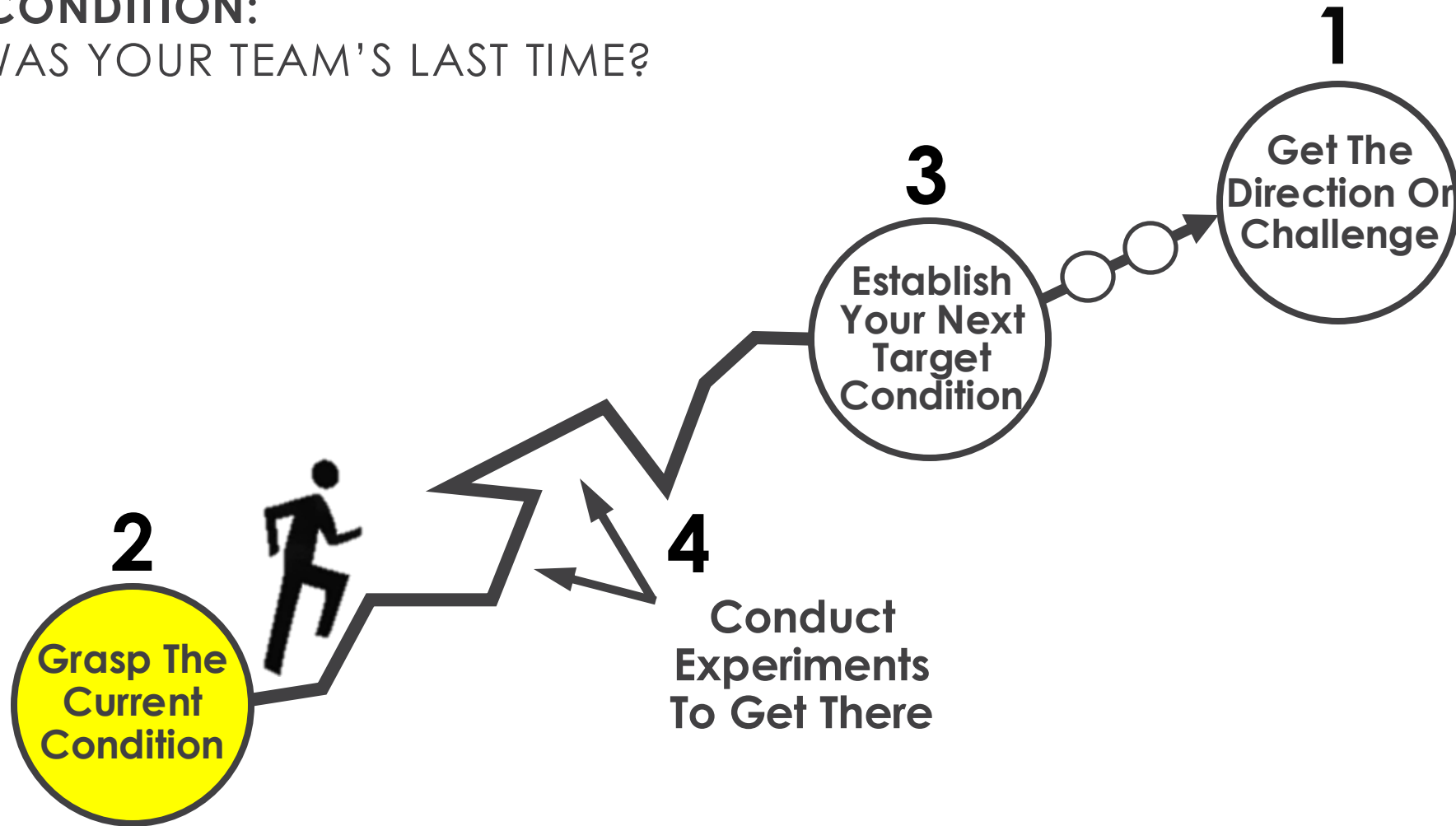
- 15 SECONDS



STEP 2: GRASP THE CURRENT CONDITION

CURRENT CONDITION:

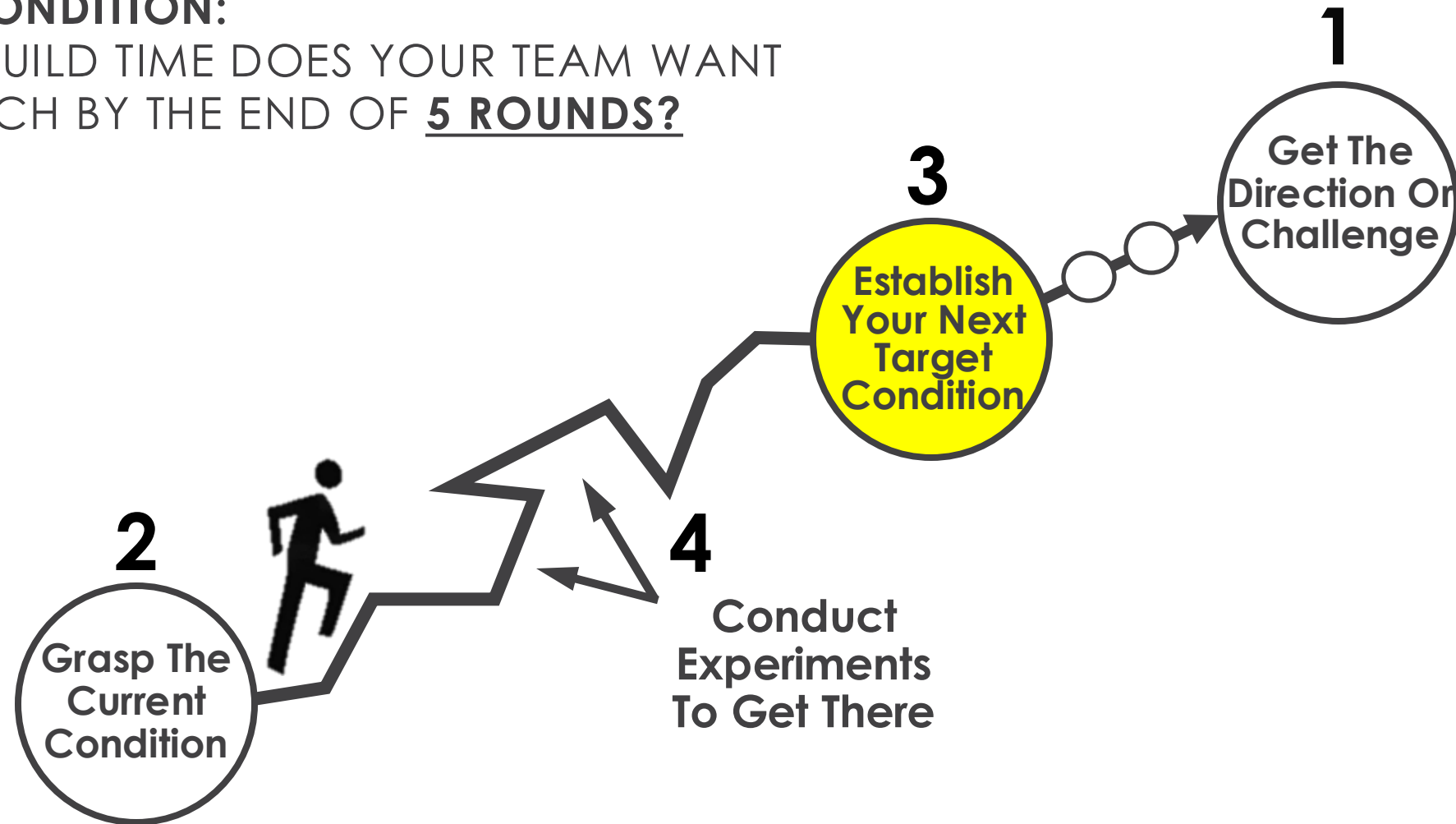
- WHAT WAS YOUR TEAM'S LAST TIME?



STEP 3: ESTABLISH YOUR TARGET CONDITION

TARGET CONDITION:

- WHAT BUILD TIME DOES YOUR TEAM WANT TO REACH BY THE END OF **5 ROUNDS?**



STEP 3: ESTABLISH YOUR TARGET CONDITION

DOCUMENT YOUR RESULTS

Pick a Target Condition you can achieve in 5 rounds

Mark your Target Condition with a line

Time Tracking Sheet (Run Chart)						
Round	Current Condition	1	2	3	4	5
SECONDS	60	●				
	55					
	50					
	45					
	40					
	35					
	30					
	25					
	20					
	15					
10						
5						
Time	58					
# people	3					

Obstacle Parking Lot	
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____
●	_____

- Write down:
1. Time to complete task
 2. # of people touching Potato Head

- Write down:
1. List obstacles CURRENTLY preventing you from reaching your target condition
 2. Cross out obstacles you've overcome
 3. If obstacles reemerge write them down again

STEP 3: ESTABLISH YOUR TARGET CONDITION

DOCUMENT YOUR RESULTS

Time Tracking Sheet (Run Chart)		Obstacle Parking Lot				
Round	Current Condition	1	2	3	4	5
SECONDS	60	●				
	55					
	50					
	45					
	40					
	35					
	30					
	25					
	20					
	15					
	10					
5						
Time	58					
# people	3					

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

Write the obstacles preventing you from getting to your Target Condition



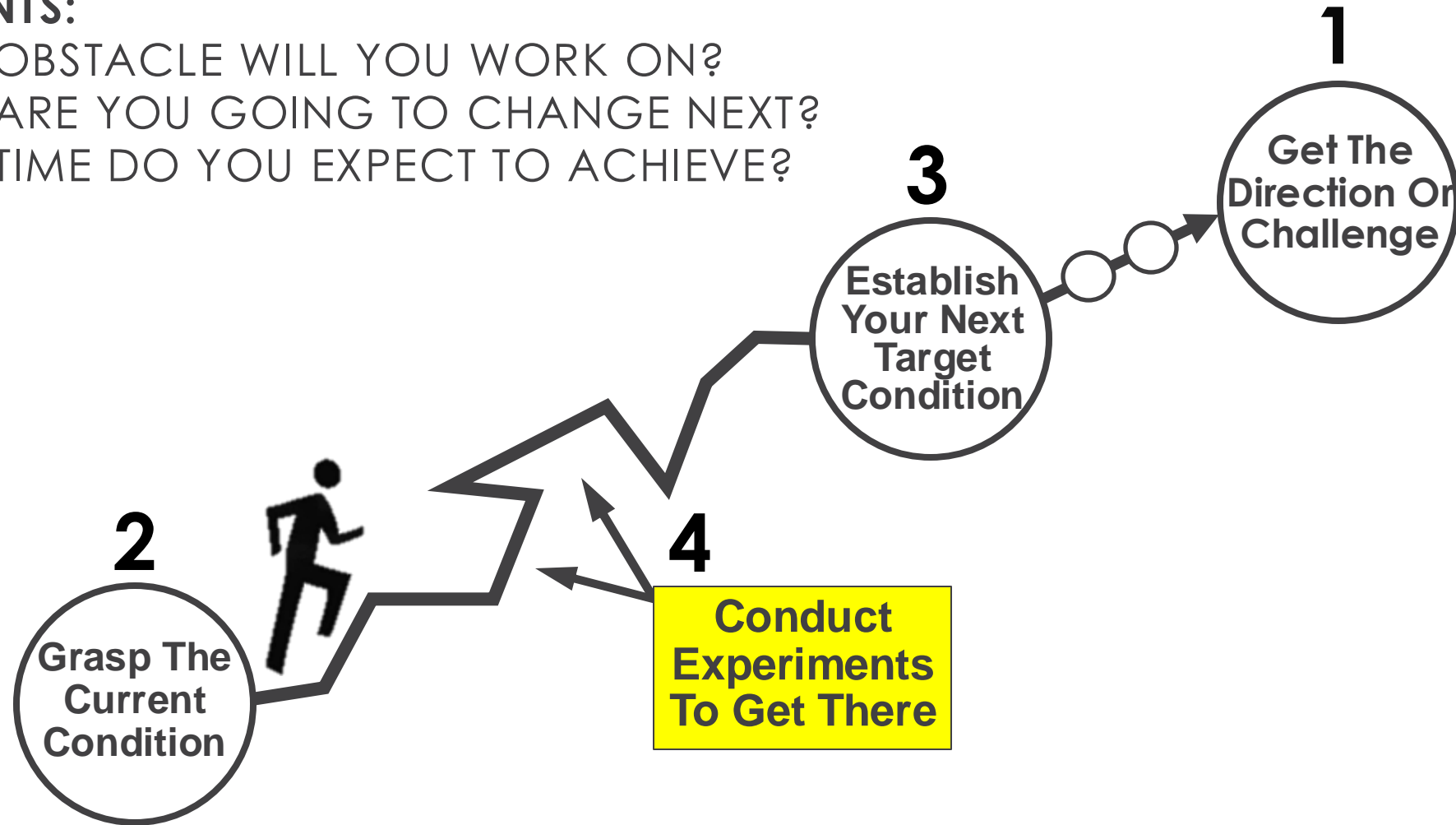
- Write down:
1. Time to complete task
 2. # of people touching Potato Head

- Write down:
1. List obstacles CURRENTLY preventing you from reaching your target condition
 2. Cross out obstacles you've overcome
 3. If obstacles reemerge write them down again


STEP 4: CONDUCT EXPERIMENTS TO GET THERE

EXPERIMENTS:

1. WHAT OBSTACLE WILL YOU WORK ON?
2. WHAT ARE YOU GOING TO CHANGE NEXT?
3. WHAT TIME DO YOU EXPECT TO ACHIEVE?



PICK AN OBSTACLE, PLAN YOUR EXPERIMENT AND PREDICT RESULT

PDCA/PDSA EXPERIMENTING RECORD <small>(Each row = one experiment)</small>						
PLAN				DO	CHECK or STUDY	
#	Obstacle	What are you going to change next?	What did you EXPECT?		What ACTUALLY HAPPENED?	What did you LEARN?
1	PICK ONE	PREDICTION		PERFORM A COACHING CYCLE	EVIDENCE	EVALUATE
						
ACT 2						
ACT 3						
ACT 4						
ACT 5						END EXERCISE

PLAN EXPERIMENT 1

TASKS

1. ESTABLISH TARGET CONDITION
2. LIST OUT OBSTACLES
3. PICK THE OBSTACLE YOU WILL WORK ON NEXT
4. WHAT ARE YOU GOING TO CHANGE NEXT?
5. WHAT TIME DO YOU EXPECT TO ACHIEVE?

YOU WILL HAVE 90 SECONDS FOR THIS ROUND

START

TIME'S 1:30 UP



COACHING KATA QUESTIONS

REFLECTION

**Ask these questions
after each experiment**

- 1) What is your Target Condition?**
- 2) Where are you now?**
- 3) What did you plan to try
in your last step?** What did you expect?
- 4) What was the result? (*change*)**
- 5) What did you learn?**
- 6) What is your next experiment?
(*read*)**

Kata in the Classroom / katatogrow.com

MEET YOUR KATA COACHES



Alex Longe, RN
(ED/Cardiac Prep & Recovery)



Ashley Davis, RN
(OR/Accreditation)



Caralee Jones, RN
(ED/Hospice)



Danielle Moore, RN
(SICU/UCRM)



Katie Woolf, DPT
(Physical Therapy)



Kenzie Anderson, RN
(OR/Endoscopy)



Kristina Frazier, RT
(Respiratory Therapy)



Paul Arnold, OT
(Occupational Therapy)



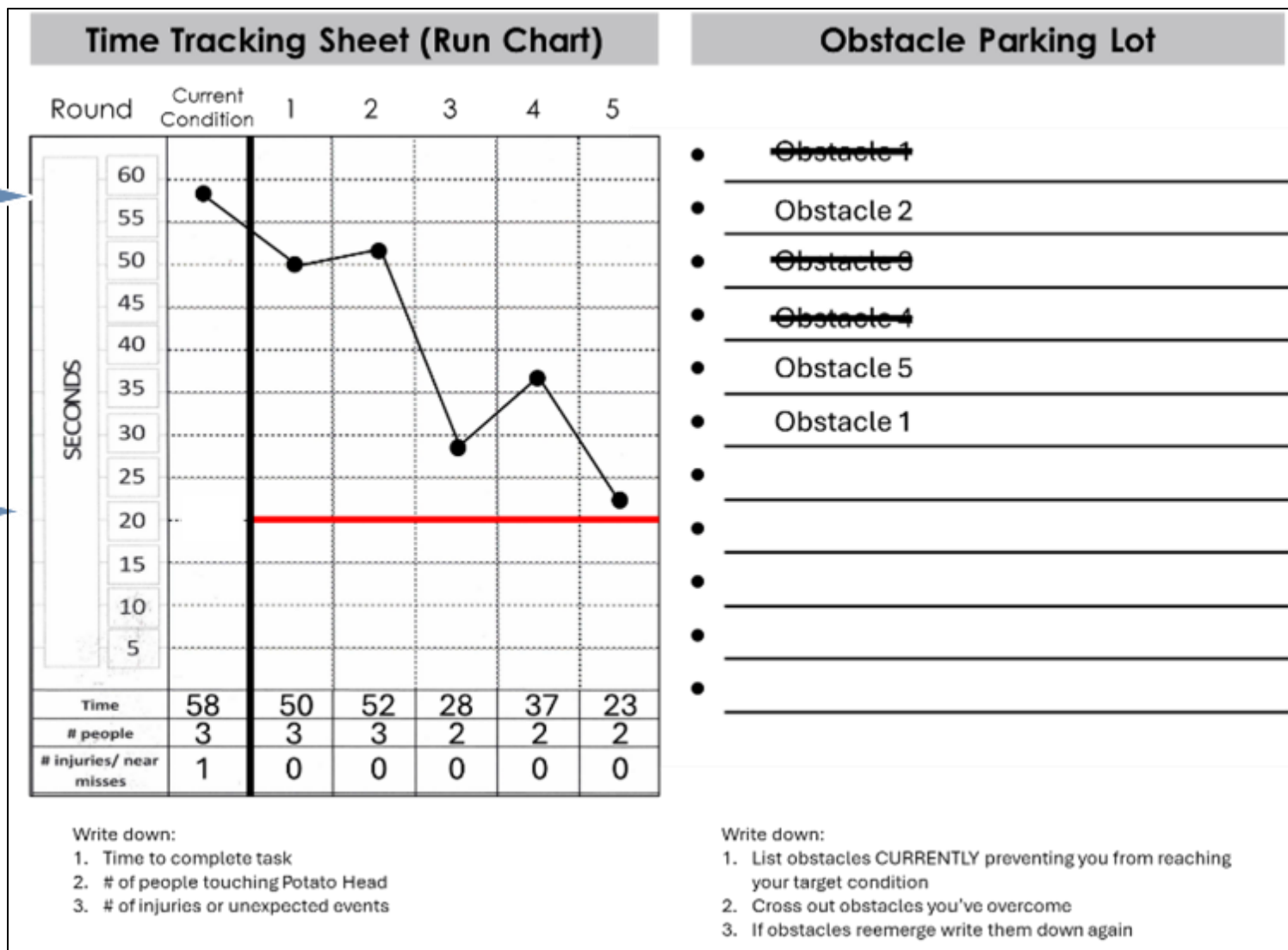
Sara Lauer, RN
(OR/Nursing Informatics)

CHART TIME ON TIME TRACKING SHEET, WRITE DOWN OBSTACLES ENCOUNTERED

Current Condition



Target Condition



Obstacles



UPDATE EXPERIMENTING RECORD

PDCA/PDSA EXPERIMENTING RECORD <i>(Each row = one experiment)</i>						
PLAN				DO	CHECK or STUDY	
#	Obstacle	What are you going to change next?	What did you EXPECT?		What ACTUALLY HAPPENED?	What did you LEARN?
1	PICK ONE	PREDICTION		PERFORM A COACHING CYCLE	EVIDENCE	EVALUATE
	→				→	
ACT 2					→	
	→				→	
ACT 3					→	
	→			→		
ACT 4				→		
	→			→		
ACT 5				→		
	→			END EXERCISE →		

GET READY

(1) **"START Position"** =

- **Place pieces in Potato Head**
- **Attach feet to body**
- **Hands flat on the table**
- **No talking, you're ready to go**

(2) **All Teams Start Together**

- Instructor calls "START"**
- Build the Potato Head (talking allowed)**
- Note the elapsed time on your form**

As soon as you are done with the experiment, discussing next steps with your team and filling out the forms call your coach over

After the coaching questions, you can start the next round.

Up to 3 minutes per round

RULES FOR THE 5 EXPERIMENTS



(1) **START Position**

- Place pieces in Potato Head
- Attach feet to body
- Hands flat on the table
- No talking, you're ready to go

(2) **All Teams Start Together**

- Coach calls "START"
- Build the Potato Head (talking allowed)
- Note the elapsed time on your form
- Fill out sections
- Call coach over
- Coach reads reflection questions

(3) **Coach starts next round**

- Repeat steps 2-3 for 5 rounds

ROUND 1

3:00 COVER



ROUND 2

3:00 O:V:ER



ROUND 3

3:00
OVER



ROUND 4

3:00 OVER



FINAL ROUND

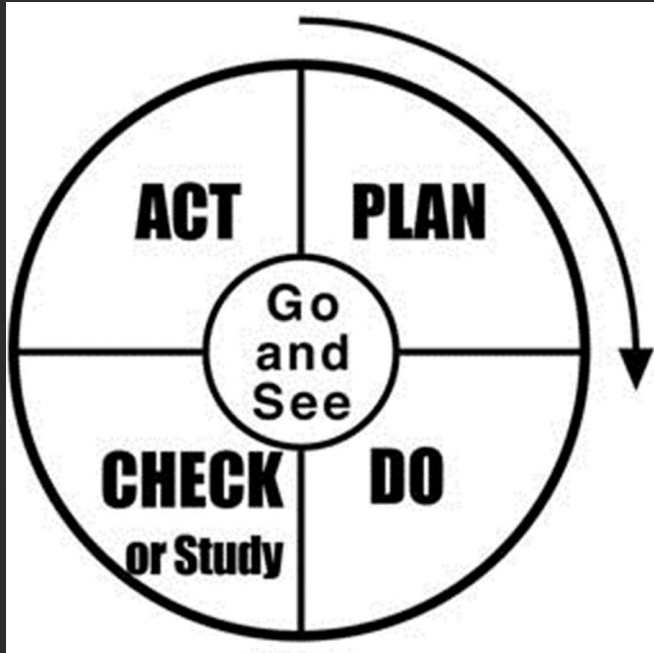
3:00 OVERT



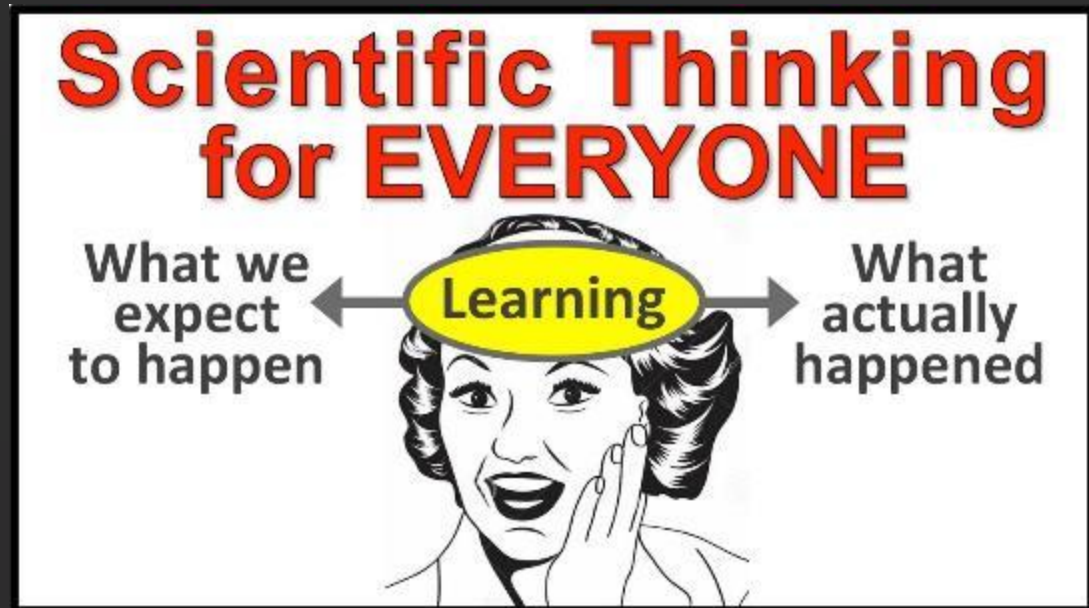
DEBRIEF EXERCISE

Debrief:

Scientific Method



Scientific Thinking



Debrief:

The Improvement Kata

1. Get the Direction or Challenge
2. Current Condition
3. Target Condition
4. Experiment

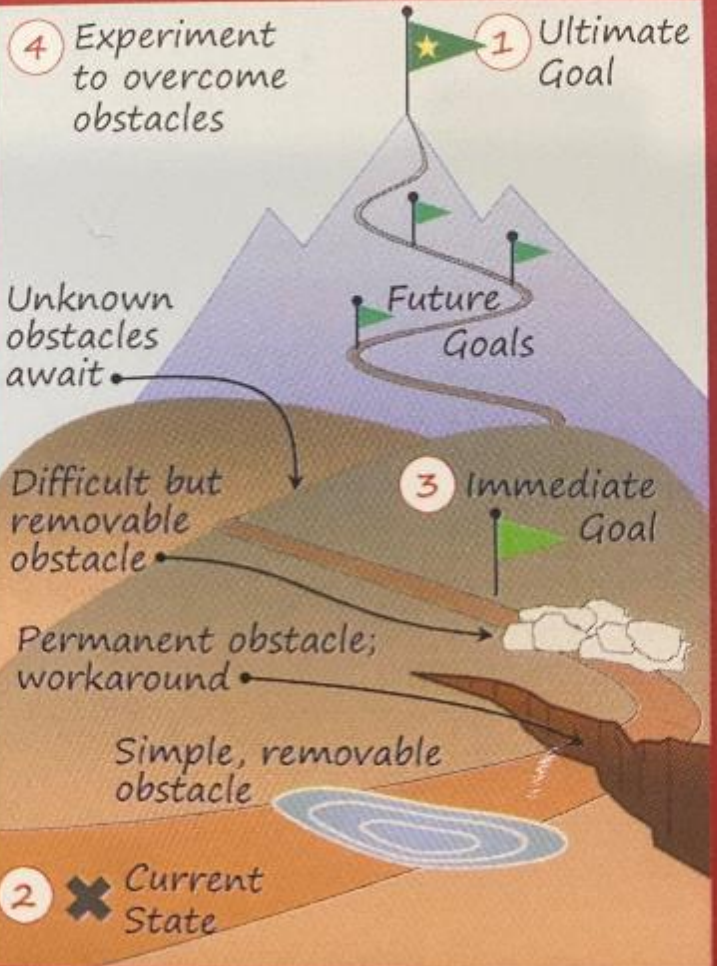
THE 4 STEPS OF THE IMPROVEMENT KATA

DRAWN BY GEMMA JONES

BASED ON THE WORK OF MIKE ROTHER
TOYOTA KATA PRACTICE GUIDE, 2018



KATA: IMPROVEMENT PRACTICE



KATA

Science at the frontline

1. What's the immediate goal?
2. What's the current state?

Measure the gap

Are we reflecting on the last experiment?



- a. What was your plan?
- b. What did you expect?
- c. What actually happened?
- d. What did you learn?

3. What obstacles do you think are keeping you from your goal? ... And which is your focus now?
4. What's the next experiment? ... And what outcome do you expect?
5. How soon can we learn from the next experiment?

Define the problem

State a hypothesis

Study results

Debrief:

The Improvement Kata

1. Get the Direction or Challenge
2. Current Condition
3. Target Condition
4. Experiment

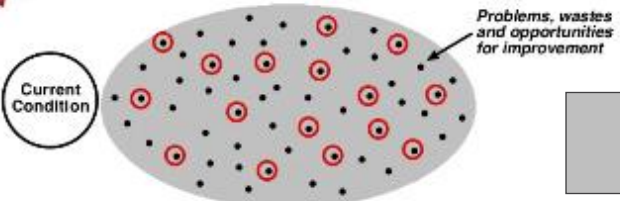
Develop New Habits By Practicing

- Scientific Method (PDCA/PDSA)
- Scientific Thinking
- Kata


Old Way

HOW DO WE TEND TO TRY TO IMPROVE?

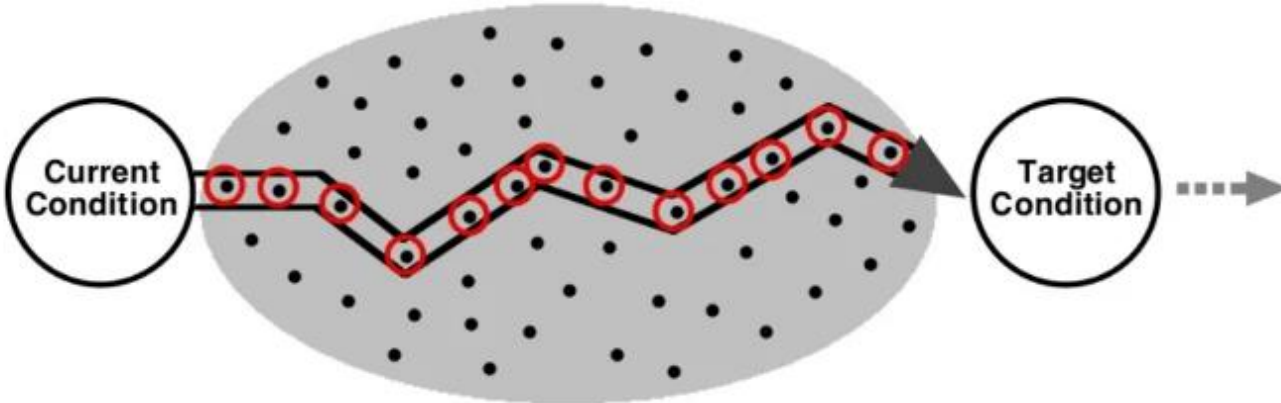
We hunt for wastes or react to problems, and try to eliminate them



Problems, wastes and opportunities for improvement



This scattershot approach may not achieve meaningful improvement that moves the organization forward. It mispends our limited capacity for making improvements. We don't learn much, because we're not experimenting.



Current Condition

Target Condition

Diagram by Mr. Jeff Uitenbroek

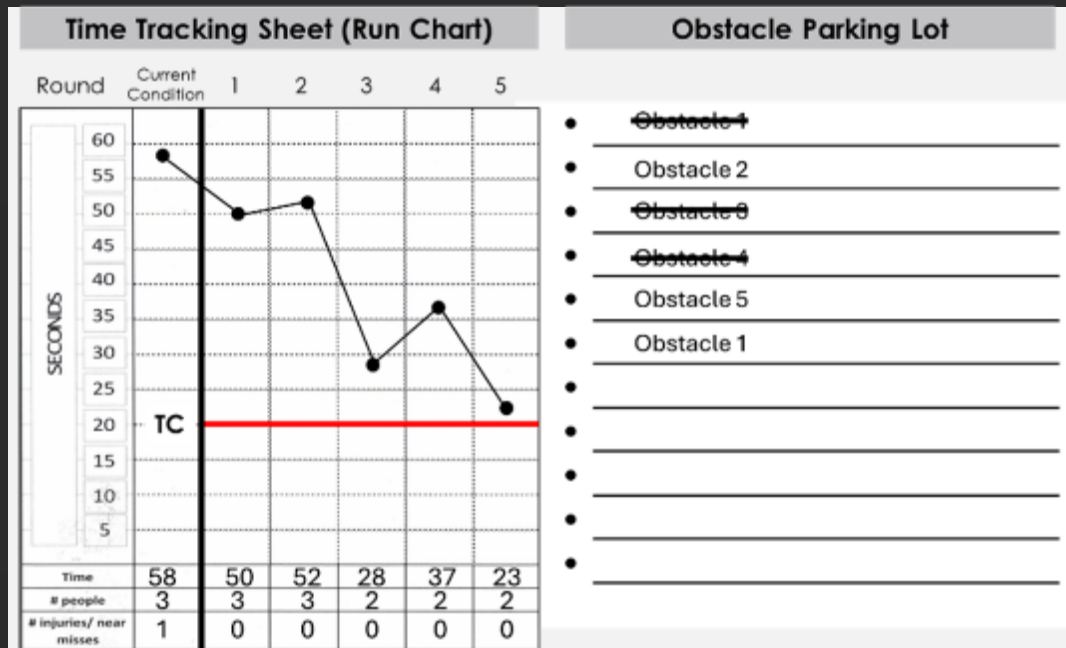
Debrief:

The Improvement Kata

1. Get the Direction or Challenge
2. Current Condition
3. Target Condition
4. Experiment

Supporting Documents

- Time Tracker Form
- Obstacle Parking Lot Form
- PDCA/PDSA Experimenting Form



PDCA/PDSA EXPERIMENTING RECORD (Each row = one experiment)

#	PLAN		DO	CHECK or STUDY	
	Obstacle	What are you going to change next?		What did you EXPECT?	What ACTUALLY HAPPENED?
1	PICK ONE	PREDICTION	PERFORM A COACHING CYCLE DO THE EXPERIMENT	EVIDENCE	EVALUATE
ACT 2					
ACT 3					
ACT 4					
ACT 5					END EXERCISE

Debrief:

The Coaching Kata

Everybody needs a coach

Michael Jordan put it nicely: "You can practice shooting eight hours a day, but if your technique is wrong, then all you become is very good at shooting the wrong way."

A coach keeps your technique in check and can keep you accountable to daily practice

REFLECTION

Ask these questions after each experiment

- 1) What is your Target Condition?
- 2) Where are you now?
- 3) What did you plan to try in your last step? What did you expect?
- 4) What was the result? (*change*)
- 5) What did you learn?
- 6) What is your next experiment? (*read*)

Debrief:

What next?

Start Today

1. Commit to a daily practice
2. Start with 25 experiments
 - Build an exercise routine
 - Reduce after hours work
 - Learn how to whistle
 - Leave for work on time
 - Leave work on time
3. Use Coaching Kata to teach someone the Improvement Kata

1. Be a learner
2. Coach a learner
3. Coach a coach

DISCIPLINE
EQUALS
FREEDOM

BEST WISHES FOR YOUR PRACTICE!



Dane Falkner

Manager, Quality and Operational Excellence
System Quality

Dane.Falkner@hsc.Utah.edu | <https://www.linkedin.com/in/danevfalkner/>