

# BREAKOUT SESSION #3

---

What makes for a really **good**  
experiment with practice using  
**PDCA** form?

# PDCA CYCLES RECORD

PDCA CYCLES RECORD <i>(Each row = one experiment)</i>					
Obstacle:		Process:			
		Learner:		Coach:	
Date, step & metric	What do you expect?	Do a Coaching Cycle	Conduct the Experiment	What happened	What we learned

**“THE FORMAT ENSURES THAT WE ARE BITING OFF THE RIGHT AMOUNT OF DAILY LEARNING & THE NEXT STEPS ARE APPROPRIATE!”**

# SESSION #3 AGENDA

Start Time	Topic	Outcome	Method	Facilitator
10:42	Facilitator Introductions	Who we are	Verbal	Amy/Mike/Paige
10:44	Session Outline	3 Expectations Clarified	Verbal	Mike
10:45	Brainstorm Scientific Behaviors list	List to take home	Flip Chart/ Handout	Mike
10:55	Critique Sheet for PDCA cycle record	Reviewed Document	Checklist handout	Amy
11:00	Divide breakout into 3 groups [Mfg/ Service/ Healthcare]	3 groups; Assign task	Verbal	Amy
11:02	Manufacturing/ Healthcare/Service Examples Reviewed	Re-written PDCA cycle record	PDCA record	Mike/Amy/Paige
11:20	Report-out and Share	List of common Errors	Verbal/Flip Chart	Paige
11:28	Dismiss to main area	Return to	Verbal	Mike

# Behaviors that Demonstrate Scientific Thinking – A Starter List

**Document** the results of the tests

Display & Share one's thinking

Be a Learner (Read, Watch, Practice, **Have a Coach, Be a Coach**)

Directly **Observe** the Work

Be Willing to Experiment

**Failure is OK**

Have a **positive attitude** about obstacles

Be Willing to say "**I Don't Know**"

**Share** benefits to others



# Brainstormed List of Scientific Behaviors

- Prediction
- Standard work
- Feedback
- Use of data/Measurements
- Multiple iterations
- Root Cause
- Learnings
- Language
- Variation/Understanding
- Proof
- Recognizing knowledge threshold
- Making things visual
- Willingness to try
- Hypothesis
- Comfortable being wrong
- Go and see
- Leave with questions
- Comfort bringing problems forward
- Systems thinking
- Coaching providing procedural guidance

# Checklist for Conducting an Experiment

Items	Y	N
• Did you conduct experiment against an obstacle to the Target Condition?	Y	N
• Did you identify your current Threshold of Knowledge and conduct the next experiment there.	Y	N
• Can you do a single-factor experiment, where only one thing is changed?	Y	N
• Can you test your prediction as soon and quickly as possible?	Y	N
• Make sure that failure won't harm anyone or anything. If necessary build up a buffer before conducting the experiment or conduct the experiment offline in a simulation.	Y	N
• Did you write onto the PDCA Cycles Record what you expect to happen (your prediction) before you do the experiment?	Y	N
• Did you measure it? The experiment must be measureable in some way, so you can determine if the prediction was confirmed or refuted.	Y	N
• If possible the experiment should build on what was learned in your previous experiment.	Y	N
• In order to learn from your experiment you must be open to and willing to see that the result may not conform to your expectation. Own it!	Y	N



**HEALTHCARE  
EXAMPLE**

# KATA PDCA CYCLES RECORD (each row = one experiment)



**Date:** 3/1/17

**Process:** RN assignment for new clients

**Obstacle:** Scheduler accuracy with RN assignment for new clients is low. Requires more RN Manager time than available to assist.

**Process Metric:** % correct assignments

**Learner:** Julie

**Coach:** Gwen

What is your next step?

What do you expect?

What happened?

What did you learn?

**By 3/15, observe Kim as she determines RN assignments for new clients.**

**To “go and see” and understand the current condition more fully**

**Observed Kim making assignments.**

**She was using an outdated facility assignment list.**

**3 out of 4 RN assignments made correctly**

**She missed Step #2 in the assignment process (check territories). This resulted in an incorrect RN assignment.**

Coaching Cycle  
Experiment

**By 3/17, observe Kim again**

**See above**

**Observed Kim.**

**Kim missed Step #2 again. She seems to incorrectly assign RNs when the client lives in a densely populated area. I reminded her of the importance of following the steps.**

**1 out of 3 assignments made correctly.**

**By 3/18, observe Kim again**

**See above**

Repeated observation steps when there are opportunities for experimentation based on what has been learned so far

Steps and expectations aren't written out in a way that allows the Learner to read directly from the board



# KATA PDCA CYCLES RECORD (each row = one experiment)



**Date:** 3/1/17

**Process:** RN assignment for new clients

**Obstacle:** Scheduler accuracy with RN assignment for new clients is low. Requires more RN Manager time than available.

**Process Metric:** % correct assignments

**Learner:** Julie

**Coach:** Gwen

What is your next step?

What do you expect?

What happened?

What did you learn?

**By 3/19, use new drawing to make the assignment process visual**

**That this will help Kim make more accurate assignments in densely populated areas**

**Kim made more accurate assignments**

**The new drawing helped!**

How much more accurate? Quantify your prediction.

No process metric provided.

Coaching Cycle  
Experiment

# KATA PDCA CYCLES RECORD (each row = one experiment)

<b>Date:</b> 3/1/17		<b>Process:</b> RN assignment for new clients			
<b>Obstacle:</b> Scheduler accuracy with RN assignment for new clients is low (<50%). Requires more RN Manager time than available to assist.		<b>Process Metric:</b> % correct assignments (goal=80%)			
		<b>Learner:</b> Julie		<b>Coach:</b> Gwen	
What is your next step?	What do you expect?	Coaching Cycle	Experiment	What happened?	What did you learn?
<b>By 3/15, observe Kim as she determines RN assignments for new clients.</b>	<b>To “go and see” and understand the current condition more fully</b>			<b>Observed Kim making assignments.</b>  <b>75% of RN assignments made correctly (3 out of 4)</b>	<b>Kim was using an outdated facility assignment list.</b>  <b>She missed Step #2 in the assignment process (check territories). This resulted in an incorrect RN assignment.</b>
<b>By 3/17, create and get feedback from Kim on a visual decision-making tool that will allow Kim to better explain her thinking to me at our huddle</b>	<b>That I can make a tool that visually explains the decision-making points for making RN assignments.</b>  <b>That Kim will understand how to use the tool.</b>			<b>Created a rough visual tool during my huddle with Kim.</b>  <b>Explained to Kim how I would like her to use it.</b>	<b>That a quick sketch of the tool will help us get started. It doesn’t have to be perfect to be helpful.</b>
<b>By 3/18, Kim will use the new visual tool when making assignments. I will observe her process.</b>	<b>That RN assignment accuracy will increase to 80%</b>  <div style="background-color: #1a3d54; color: white; padding: 5px; text-align: center; font-weight: bold;">Improved Version</div>			<b>100% of assignments made correctly (4 out of 4)</b>  <b>2 times, Kim completed all 4 steps when she only needed to complete the 1<sup>st</sup> step to make the assignment.</b>	<b>The visual tool helped clarify the decision-making steps. It was a good way for me to gain insight into Kim’s thought process.</b>  <b>The tool doesn’t include visual cues that signal when enough info is known to make the assignment.</b>



**MANUFACTURING  
EXAMPLE**

# KATA PDCA CYCLES RECORD (each row = one experiment)

Date: **3/24/17**

Process: **Bottle Filler**

Obstacle: **We don't know why we have bottles being rejected.**

Process Metric: **Units/Min and DPMO**

Learner: **Jerry**

Coach: **Clint**

What is your next step?

What do you expect?

What happened?

What did you learn?

**Meet with operators to discuss reasons why bottles rejection occurs.**

**Get a better understanding of what is causing to have defects on the**

**Met with 1<sup>st</sup> shift employee. He was new and didn't notice the problems when he was at his station.**

**Bottle filler person isn't always available to troubleshoot**

Coaching Cycle

Experiment

**Talk with Trainer and review materials for Bottle filler position**

**Gaps in expectations of role**

Direct observation with no measurable outcomes observed.

**See above**



**SERVICE IT  
EXAMPLE**

# KATA PDCA CYCLES RECORD (each row = one experiment)

<b>Date:</b> 3/1/17		<b>Process:</b> IT Help Desk Call Center		
<b>Obstacle:</b> Information Technology's Help Desk first time call resolution counts under 20%. Target is 80%		<b>Process Metric:</b> First Time Call Resolution		
		<b>Learner:</b> Joe	<b>Coach:</b> Dominic	
What is your next step?	What do you expect?		What happened?	
<p><b>Observe Information Technology Help Desk Call Center technicians on Wednesday or Friday.</b></p> <p>Vague experiment dates. Also – too much time in between each experiment.</p>	<p><b>New topics to re-train technicians to meet the target.</b></p>	<p>Coaching Cycle Experiment</p>	<p><b>In 60 minutes, I monitored data from 1 technician who conducted 50 calls in total.</b></p> <p><b>0 issues were resolved during the call.</b></p>	<p><b>Technician thought that all calls were monitored for call time speed.</b></p>
<p><b>Meet with Information Technology Help Desk Call Center Supervisor soon.</b></p>	<p><b>The Supervisor will better define first time call resolution to his entire team.</b></p>		<p><b>The Supervisor held a meeting with his team to define first time call resolution.</b></p>	<p><b>The team of technicians did not have any questions and seemed to understand the metric definition.</b></p>
<p><b>Observe Call Center Technician in 6 months.</b></p>	<p><b>Technician and team will exceed the 80% first time call resolution target.</b></p>		<p><b>First time call resolution counts still under 20%</b></p>	<p><b>The call center system did not contain job aids or troubleshooting guides to help technicians with issue resolution.</b></p>
<p><b>Complete all call center job aids and technician training by next week.</b></p>	<p><b>Store job aids in a folder within the call center system. All technicians to achieve 50% call resolution.</b></p>		<p><b>First time call resolution counts still under 20%</b></p>	<p><b>The team did not have enough time to practice and master.</b></p>

# Team Evaluation

## Good

- Collecting more info and data may be needed to ensure learning
- Include Data
- Define what to expect
- Deeper analysis of process
- Reasonable target condition
- Focus on obstacle next step needs to have clear action
- Snake back
- Gap between expectation and what happened
- Specific expectations (more to “observe”)
- Measurable!

## Poor

- Poor analysis of Check
- Separate obstacles and current condition
- Don't wait months to experiment
- Lack of leading questions from the coach

# TODAY'S TAKEAWAYS

1.

**Use the handouts to make a **good** PDCA record**

2.

**Design each experiment to overcome obstacles not to reach the target condition.**

3.

**Embrace scientific thinking!**





**WE'VE ALWAYS DONE IT  
THIS WAY**

---

THE SIX  
**MOST EXPENSIVE**  
WORDS IN BUSINESS

# references.

MIKE ROTHER TOYOTA KATA HANDBOOK

BETH CARRINGTON  KATA Matters

The logo for 'KATA Matters' features the text 'KATA Matters' in a grey sans-serif font. Below the text is a horizontal grey line with three colored dots: a grey dot on the left, an orange dot in the middle, and a yellow dot on the right.

BRANDON BROWN P. E., MSE