TOYOTA KATA

It may be habit-forming

Daily Practice for Scientific-Thinking Skill, Mindset, and Culture

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About a way of working, and of working together.

Scientific thinking is an ingredient that makes some teams and organizations particularly effective.

It’s an aspect of culture that you can create through practice.
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PURPOSE OF THIS PRESENTATION

Toyota Kata Overview
TAKE IK/CK WHERE YOU WANT TO TAKE IT

1. **It's a New Topic**
   Since 2009. There's room to make whatever you like out of it.

2. **It's D.I.Y.**
   Not copying Toyota's solutions, but how Toyota develops solutions.

3. **It's an Open System**
   Once you internalize the patterns of the Starter Kata, evolve it to suit your own situation.
In 1965 the Mariner 4 spacecraft finally proved there are no canals on Mars.
DON'T BELIEVE EVERYTHING YOU THINK.
TEST IT!

A good que-up for talking about *Toyota Kata* and scientific thinking!
2003-2009 WE STUDIED TOYOTA’S MANAGEMENT APPROACH

Here’s what we found:

**Visible Stuff**
- Toyota’s results
- ”Lean” tools & practices

**Less Visible Stuff**
- A systematic, scientific way of thinking & acting
- Managers teaching their people this way of thinking

The less visible stuff is a foundation that makes the Lean tools work
Scientific thinking may be the best means we currently have for navigating through complex, dynamic, unpredictable territory toward challenging goals.

It’s creating a capability in the organization that you can then use.

You can establish challenging goals for an organization, if its people have practiced and learned an effective way of meeting them.
Toyota is able to generate and utilize *entrepreneurial mindset and behavior* in its people, even as a mature company.

For example:

- Not assuming the current situation is permanent. Able to welcome a challenge, even though the answers are unknown.
- Being OK with some uncertainty. Able to move forward in the face of uncertain and ambiguous circumstances.
- Viewing barriers more as *obstacles*.
WE FOUND A PATTERN AT TOYOTA
The four-step “Improvement Kata” model

A practical, scientific way of thinking & working
LET’S TALK ABOUT
SCIENTIFIC THINKING

Scientific
Powers

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Toyota Kata
CARD – SIDE 1

• Hold the card in front of you, dot on the left.
• Close your left eye. Stare at the dot with your right eye.
• Move the card in and out slowly while staring at the dot.

→ What happens?
BLIND SPOT (lacuna)
No visual receptors in your eyeball here

Can’t see the cross
CARD – SIDE 2

• Again: card in front of you, dot on the left.
• Close your left eye. Stare at the dot with your right eye.
• Move the card in and out until the cross disappears.
→ What happens this time?
BLIND SPOT (lacuna)
No visual receptors in your eyeball here

We don’t see the cross, but we see the line

WHAT’S HAPPENING HERE?
THE BRAIN MAKES ASSUMPTIONS

Our brain creates feelings of certainty based on the bits of information it receives.

Our brain fills in blanks automatically, quickly, and silently.

We often don't notice a knowledge threshold. That's where trouble starts!
THIS ASSUMPTION MECHANISM HELPS US GET THROUGH THE DAY ...

Our survival depends on it

Beneficial when fast reaction is more valuable than deep understanding

Faster! Saves limited cognitive resources

Better-safe-than-sorry cognitive mechanism
... BUT IT ALSO CAUSES PROBLEMS

What do you see here?
... BUT IT ALSO CAUSES PROBLEMS

Our judgements are not always correct. We feel certain and then we make faulty decisions, just like Percival Lowell and those canals on Mars.

The legs are not shiny. It’s just some white paint.
A COUNTERMEASURE: SCIENTIFIC THINKING

"Let's try it and see"

A routine of intentional coordination between what we predict will happen next, seeing what actually happens, and adjusting based on what we learn from the difference.
A COUNTERMEASURE: SCIENTIFIC THINKING

"Let's try it and see"

A routine of intentional coordination between what we predict will happen next, seeing what actually happens, and adjusting based on what we learn from the difference.

You make a prediction, reality happens, if there’s a difference you learn from it.
THE IMPROVEMENT KATA PATTERN

Threshold of Knowledge

Current Condition

Experiments
When you're at a knowledge threshold do an experiment to see further

Next Target Condition (date)

Direction or Challenge

When you're at a knowledge threshold, do an experiment to see further.
HOW DO YOU ACQUIRE SUCH A WAY OF THINKING?

A model alone is not enough

Ok, that’s cool, but...
A Model is Not Enough

Scientific thinking is not our default mode as adults

Scientific Thinking is Learned

Born?

Learned

Adults are bad at scientific thinking, due to all our learned neural paths

HOW?
AN ANSWER

1. Scientific Thinking Pattern

2. Techniques of Deliberate Practice

TOYOTA KATA brings these two things together
LET’S TALK ABOUT
DELIBERATE PRACTICE
WHAT DOES IT TAKE TO LEARN NEW SKILLS AND CHANGE OUR THINKING?

Take a moment... please cross your arms
LET'S TRY JUST A SMALL CHANGE

Now re-cross them the other way
HOW DID IT FEEL THE SECOND TIME COMPARED TO THE FIRST?
SECOND TIME

Awkward
Slow
Unnatural
Stiff
Uncomfortable
Difficult
It feels wrong
Had to think about it

WHAT'S HAPPENING HERE?
OUR THINKING PATTERNS ARE IN A LOOP

You've practiced folding your arms one way for decades

Every time you think or do something, you are more likely to do it again
WHY THE 2\textsuperscript{nd} TIME FEELS DIFFERENT

The brain favors practiced neural pathways, to conserve energy and for safety

Fast & Efficient Neural Pathways
Our Habits

Crossing arms the usual way
The highways in our brain require little attention and energy

Slow and Inefficient Neural Pathways
New Ways

Crossing arms the other way
Doing something new or different requires attention and energy (at first)
DON’T FIGHT EXISTING NEURAL HIGHWAYS - BUILD NEW ONES -
This is the IK/CK approach

Just explaining a different way usually doesn't work.
The learner will almost always stick with or revert back to their established habits. Not hostile, it's physiological.

What can work:
Deliberately practicing new neural pathways, i.e. building new habits that eventually replaces the old

For instance, what if you practiced folding your arms the other way for a month?
HOW WE ACQUIRE NEW SKILLS & MINDSET

Building new neural highways to replace the old

(2 minutes)
THIS IS WHERE **STARTER KATA** COME IN

They help us break out of mindset loops

More Scientific **MINDSET**

More Scientific **BEHAVIOR**

As in sports & music

**STARTER KATA**
STARTER KATA

There are simple practice routines for each step of the IK model

Way of Doing
The IK Model

Practice Routines
Starter Kata to begin to operationalize the IK pattern
THERE'S ALSO A COACHING KATA

Corrective, situational feedback for each learner
Basic repertoire for the Improvement Kata. Building-block practice routines that help you learn its scientific-thinking fundamentals and adopt new ways of acting and thinking.

• Not a problem-solving method. Practice routines to make you a better problem solver.
• Doesn't replace your current improvement methods, it supports them.
• Can't *implement* Kata, you can only practice them.
DON'T START WITH A 20-MILE RUN!

The role of Starter Kata

(4 minutes)
IT’S **DAILY** PRACTICE

20 minutes a day is better than two hours once a week. If you practice only periodically and the rest of the time it’s business as usual, then what you are actually practicing is *business as usual*.

This means:

- Practice should be part of daily work.
- Coaches should be line managers, because they are there every day.

A way to create a *deliberate culture* in a team or organization.

IK/CK Coaching is one-on-one
THIS IS WHAT YOU WANT TO FEEL

It means you're building new neural paths (learning)

Awkward
Slow
Unnatural
Stiff
Uncomfortable
Difficult
It feels wrong
Had to think about it

• This feeling is not necessarily a negative thing. It’s an indicator that someone is starting to learn something.
• You can get accustomed to and even enjoy it.
CREATING A DELIBERATE CULTURE

Starter Kata are especially useful when you want to create a shared way of thinking and acting in a group of people, because everyone starts with the same basics.

Managers become the coaches by default.
It's not just simple repetition:
- Correct errors (need a coach)
- Requires some positive emotions
The Five Questions

1. What is the **Target Condition**?
2. What is the **Actual Condition** now?
   ------- *(Turn Card Over)* ----
3. What **Obstacles** do you think are preventing you from reaching the target condition? Which *one* are you addressing now?
4. What is your **Next Step**? (Next experiment) What do you expect?
5. How quickly can we go and see what we **Have Learned** from taking that step?

*You’ll often work on the same obstacle with several experiments*

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**Daily Coaching Cycle**

≤ 20 Minutes a Day
THEN ... GO BEYOND THE STARTER KATA
Develop your own way by building on the fundamentals

Starter Kata
Fundamental pattern

Build on it. Additional clarifying questions, etc. this coach is adding
THE ROLE OF STARTER KATA

Scientific Mindset

Time

Starter KATA

Your own style and way

Practicing fundamentals of scientific thinking
TOYOTA KATA = TWO THINGS

The Scientific Improvement Kata Pattern
+
Techniques of Deliberate Practice

To make scientific thinking a skill that can be learned and used by anyone
Knowing isn't the same as doing. Benchmarking is not enough to make change happen.

Scientific thinking is a good way to navigate, but it is not our default mode.

Skills, habits and mindset are wired in our brain.

You can practice *Starter Kata* (with some coaching) to help wire your brain for scientific thinking.

You can also modify an organization's culture this way, with managers as the coaches.
THINGS YOU CAN DO NEXT

Get a 5Q Card and a Poster!

**The Five Questions**

1. What is the **Target Condition**?
2. What is the **Actual Condition** now?
3. What **Obstacles** do you think are preventing you from reaching the target condition? Which "one" are you addressing now?
4. What is your **Next Step**? (Next experiment) What do you expect?
5. How quickly can we go and see what we **Have Learned** from taking that step?

*You’ll often work on the same obstacle with several experiments*

**THE FOUR STEPS OF THE IMPROVEMENT KATA**

1. **Get the Direction or Challenge**
2. **Establish your Next Target Condition**
3. **Conduct Experiments to get there**
4. **Grasp the Current Condition**
The TK Website has info, videos, materials
Toyota Kata Books
Do the Improvement Kata exercise

Today at 10:30 and 2:30
Kata Presentations Here

Price Industries
Tuesday, 2:45

Baptist Memorial
Wednesday, 9:15

Zingerman’s
Thursday, 10:45

TOYOTA KATA
at
Zingerman’s
mail order