TOYOTA KATA

Practice Makes Progress

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

Mike Rother - KataCon4
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WELCOME & WELCOME BACK

• TK Topic Overview
• The TK Practice Guide
• Next Steps
DON'T
BELIEVE EVERYTHING YOU THINK.
TEST IT!

• TK Topic Overview
• The TK Practice Guide
• Next Steps
2003-2009 WE STUDIED TOYOTA’S MANAGEMENT APPROACH
Due to Toyota’s enduring success

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

Less Visible Stuff
- A systematic, scientific way of thinking & acting
- Managers as teachers of that way

Scientific thinking as a foundation for improvement, adaptiveness, and superior results.

Toyota is able to generate a sort of 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

1. Get the Direction or Challenge
2. Grasp the Current Condition
3. Establish your Next Target Condition (Date)
4. Conduct Experiments to Get There

Four mini presentations will go over these four steps

LET’S TALK ABOUT
SCIENTIFIC THINKING

Scientific Powers

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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
THE BRAIN MAKES ASSUMPTIONS
Our brain creates feelings of certainty based on the bits of information it receives

Jumping to Conclusions

Our brain fills in blanks
Automatically, quickly, and silently

Current Knowledge Threshold

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

Faster! Saves limited cognitive resources

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

What do you see here?

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 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.

What we expect to happen  Learning  What actually happens

You make a prediction, reality happens, if there’s a difference you learn from it
NAVIGATING WITH A COMPASS, NOT A MAP

Scientific thinking may be the best means we currently have for:

Navigating through unpredictable territory toward challenging goals,
by moving your knowledge threshold forward as quickly as possible

*That’s why Toyota practices it!*

You can establish challenging goals for an organization, if its people have practiced and learned an effective way of meeting them.

THE IMPROVEMENT KATA PATTERN

Threshold of Knowledge

Current Condition

Experiments

At the Current Knowledge Threshold

Next Target Condition (date)

Direction of Challenge
HOW DO YOU ACQUIRE SUCH A WAY OF THINKING?
A model alone is not enough

Here’s the thing...  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

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Toyota Kata
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

*We’ve practiced folding our arms one way for decades*

![Diagram showing the cycle between mindset and behavior with building highways in our brain.]

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
  - This is crossing your arms the usual way. The highways in our brain require little attention and energy.

- **Slow and Inefficient Neural Pathways**
  - New Ways
  - This is crossing your arms the other way. Doing something new or different requires much more attention and energy (at first).
DON’T FIGHT EXISTING NEURAL HIGHWAYS - BUILD NEW ONES -

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.

THIS IS WHERE STARTER KATA COME IN
They help us break out of mindset loops
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

IK Practicing Improvement Skills

CK Practicing Coaching Skills (The Manager)
STARTER KATA = STARTING POINT

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.

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 a negative thing. It’s a positive indicator of someone starting to learn something.
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.

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Learner's Storyboard

- **Challenge**
- **Current Condition Analysis**
- **Target Condition Definition**
- **Experimenting Record**
- **Obstacles Parking Lot**
- **Block Diagram**
- **Run Charts**

**LEARNER**

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

= The headings or outline for a coaching cycle

Daily Coaching Cycle ≤ 20 Minutes a Day

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THEN ... GO BEYOND THE STARTER KATA
Develop your own way by building on the fundamentals

Starter Kata Coaching Questions

Card feels here

Starter Kata Fundamental pattern

Build on it. Additional clarifying questions, etc. this coach is adding

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THE STARTER KATA ARE NOT THE POINT
It’s the skills and mindset that practicing them develops

One of the 5 research sites for TK. Years later I wondered:
- Still rigidly following the Starter Kata? (not good) 😞
- No increase in scientific thinking? (not good) 😞
- Internalized and applying scientific thinking in their own style (perfect!) 😊

TOYOTA KATA

Improvement Kata Pattern + Techniques of Deliberate Practice
= Making scientific thinking a skill that can be learned by anyone and used

Individuals
Teams
Organizations
Classrooms
Families
Schools
Communities
TK TOPIC OVERVIEW - SUMMARY

- 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.

• TK Topic Overview
• The TK Practice Guide
• Next Steps
PURPOSE OF THE TKPG: SUPPORT

TK is a Young Topic
Only since 2009. There’s room to make whatever you like out of it.

TK is a DIY Topic
Once you internalize the patterns of the Starter Kata, you can evolve it to suit your own situation.

TK is an Open System
You’re not copying Toyota’s solutions, but how Toyota develops solutions.

It’s an interesting time for the Toyota Kata topic. After ~9 years of existence the audience seems to be growing wider. Maybe TK could even go kinda mainstream?

It’s not often that we get a fresh, still-open, useful topic to play with, help build, and build on. I would like you to feel a part of that, and that you can run with it however you like.

The Toyota Kata Practice Guide (TKPG) was written to support that.

LOTS GOING ON

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Toyota Kata
THE ORIGINAL TOYOTA KATA BOOK

- Research report. Great foundation!
  Popular - 19 languages.
- Shares the TK findings in detail
- Lots of technical fans
- Uses Lean terminology

THE TOYOTA KATA PRACTICE GUIDE (TKPG)

- How-To for anyone
  (has all the Starter Kata)
- Lessons-learned from 10 years
- For a wider audience (eg. Part I).
  All sorts of companies, Agile, education, communities.
- Written in normal language

- Research report. Great foundation!
  Popular - 19 languages.
- Shares the TK findings in detail
- Lots of technical fans
- Uses Lean terminology
TKPG WAS WRITTEN OPEN-SOURCE

Beta version was online 2010 - 2016

 Improvement on the beta version

TK Topic Overview
The TK Practice Guide
Next Steps
• TK Topic Overview
• The TK Practice Guide
• Next Steps – You!

ACTIVITIES

① Practice, learn, evolve
... and share that

Nothing helps deepen your knowledge as effectively as sharing it

• Have a coach, be a coach
• Blog post
• Article for an industry publication
• Presentation
ACTIVITIES

1. Practice, learn, evolve ... and share that
2. Run a Kata Practitioner Day in your region in 2018

KATA PRACTITIONER DAYS

Visit ➔ www.katasummit.com/kpd

- 3-5 mini keynotes
- 1 Specialist speaker
- KiC exercise

Kata Practitioner Day

- One-day, regional mini conference to share IK/CK activities.
- Inexpensive, compact forum.
- Easy to do. Simple agenda.
- Local consortium or association.
ACTIVITIES

① Practice, learn, evolve ... and share that

② Run a *Kata Practitioner Day* in your region in 2018

③ Use and share the *Kata in the Classroom* exercise

KiC - KATA IN THE CLASSROOM

visit ➔ www.katatogrow.com

Run it at your company  Share it with educators

We’ll demonstrate it tonight, hands-on, at 5:30. 15+ people. Run it next week, and then it’s in your kit bag.
AFTER KATACON!

Send us the information about your activities!
dwayne@leanfrontiers.com

KPDs

KiC

Welcome to KataCon4!

RELEASE THE KATA