

THE LEAN MAG



lean | operational excellence | continuous improvement | strategy | leadership



#16
august 2023



BRINGING LEAN TO LIFE: COACHING THE TOYOTA KATA WAY

by Jeffrey Liker and Tilo Schwarz

Lean began around a simple principle, create flow of value to the customer. Today it has grown into a system expanding beyond the tools and taking a holistic view on organizations.

Building a system, with all its elements, is the road to success, many say. That's right, but here's the problem: The shift from a straightforward approach of reducing cost by implementing tools to long-term systems thinking is huge and far removed from existing western business philosophies. It's like asking roaming quick-win hunters to become settled and patient farmers.

Building a system is complex and multi-faceted. Arduous to handle in the whirlwind of daily business. As a result even social system interventions are typically reduced to checklist items. Implement daily management boards. Implement new roles and interdisciplinary teams. Implement new ways to incentivize the desired. Implement communication plans to change culture. Implement!

When we build a new system by implementing tools and methods they tend to collapse of their own weight over time. Then managers ask: Why is our Lean system degrading over time? What is the secret to sustainment?

It's becoming ever more evident that we can't simply implement Lean as if we were adding a turbocharger to an engine. Organizations are not machines that can be upgraded with new tools or standard operating procedures. And different organizations do not respond in the same way to the same tools and methods. We must learn and explore our way into Lean as a joint learning effort on all levels of our organization, including everyone. Even customers and suppliers need to be involved.

Think of the fundamental Lean principles like one-piece-flow as a vision to strive for. They provide intriguing long-term challenges. Think of the road to get there as uncertain and something that needs to be discovered by experimenting, reflecting and learning. Think of the people working in the system as the only ones able to build a better system, step-by-step, every day.

But how do we get such a Lean learning culture? Wouldn't it be great if we had a minimum viable intervention to spark this process of joint learning and building our system?

That was the focus of Mike Rother's research from 2004 to 2009. He dug deep, studying Toyota's master trainers, researching the origins of Lean, and studying broadly how we learn and develop new habits and ways of thinking. He then developed an approach and tested it in manufacturing companies, trying and refining over and over (1).

Here's what Mike found: Toyota deliberately teaches all organization members a practical scientific way of thinking and collaborating that

can be applied to an infinite number of challenges and objectives. Toyota wants its people to work scientifically instead of jumping to conclusions.

Scientific thinking is a meta skill that can be applied to any challenges and objectives. It's the fruitful foundation any learning organization needs.

Top-down implementation approaches are a non-scientific 'push' approach. It is more in line with PDCA to start with scientific thinking as a key meta-skill and some context-appropriate Lean basics and build from there based on what is happening and being learned.

Luckily Mike didn't stop there but went on to ask: How can we develop similar routines and thinking in our organizations?

And that's when he made an astonishing discovery, uncovering what probably is a core ingredient to Toyota's secret sauce: Working in a more scientific way is practiced in the course of normal daily work - with managers as coaches.

At Toyota the shop floor is the no. #1 training room. The elegant trick here is that while the members of an organization work through their day, they are also deliberately practicing a behavior pattern. Daily practicing is embedded in the way the organization is managed and by doing so the process for evolving the culture and daily management are one and the same. Above all, this creates a shared way of working throughout the organization. Isn't that amazing?

Why is that so important? Because you can't change the way people think directly. It has to happen indirectly. Our existing habits of mind are based on practiced, efficient neural pathways that tend to self-perpetuate and naturally prevail over attempts to change. The way to modify a team's culture is not to attempt changing how people think, but instead to start by changing how people behave - what they do. In fact, that is the way any trainer-coach helps their students learn complex skills, whether it is music, art, sports, cooking, or whatever.

In summary: If you want to modify your team's culture, define the key behavior patterns you wish to establish; then start deliberately practicing and reinforcing those behavior patterns in daily work – through coaching your team on the job.

To replicate that for evolving a Lean learning culture in our teams and organizations, Mike developed Toyota Kata – a set of practice routines for developing a more scientific way of thinking and collaborating in our teams.

Practicing the Toyota Kata routines makes anyone and any team better at navigating uncertainty and achieving challenging goals. Mike chose the term kata, borrowing from the Japanese martial arts and their term for practice routine.

The two main elements of Toyota Kata are a practical pattern for scientific thinking, called

the **Improvement Kata** and the Coaching **Kata**, a set of questions, to help managers develop their coaching skills.

And these two elements provide an elegant way out of the Lean system implementation dilemma:

- Instead of trying to copy and implement a complex Lean system, keep doing what you're doing with Lean (A3, kaizen workshops, Lean tools, etc.), but add practice of scientific thinking skills.
- Then grow organically from there as determined by your context.

And where to start? Use Toyota's secret sauce: Have managers learn to coach the Toyota Kata way, so they can coach their teams for scientific thinking – on the job – every day.

Putting Toyota Kata to the test

Tilo Schwarz ran one of the factories that was one of Mike's research sites to experiment with and develop Toyota Kata. It worked and produced outstanding results. More exciting, people were engaged at a level he had not experienced before.

Learning to coach the Toyota Kata way was not smooth sailing though. There were plenty of stumbles and frustration along the way. Tilo and his team were amazed at how difficult it was for them as managers to become good coaches. They realized that

they needed to practice scientific thinking themselves first, and that coaching definitely was more than just asking a few questions.

Tilo immersed himself in learning to coach using the Coaching Kata starter questions — experimenting, reflecting, adjusting and ultimately developing a set of micro-skills to coach scientific thinking. He did this in a high-pressure environment where his seniors wanted results now and had little patience for taking the time to develop people and learn to coach.

To bring this process of struggle and learning to life, Tilo and Jeff Liker wrote a novel, loosely based on Tilo's experience (2). Let's take a peek at an example from the book.

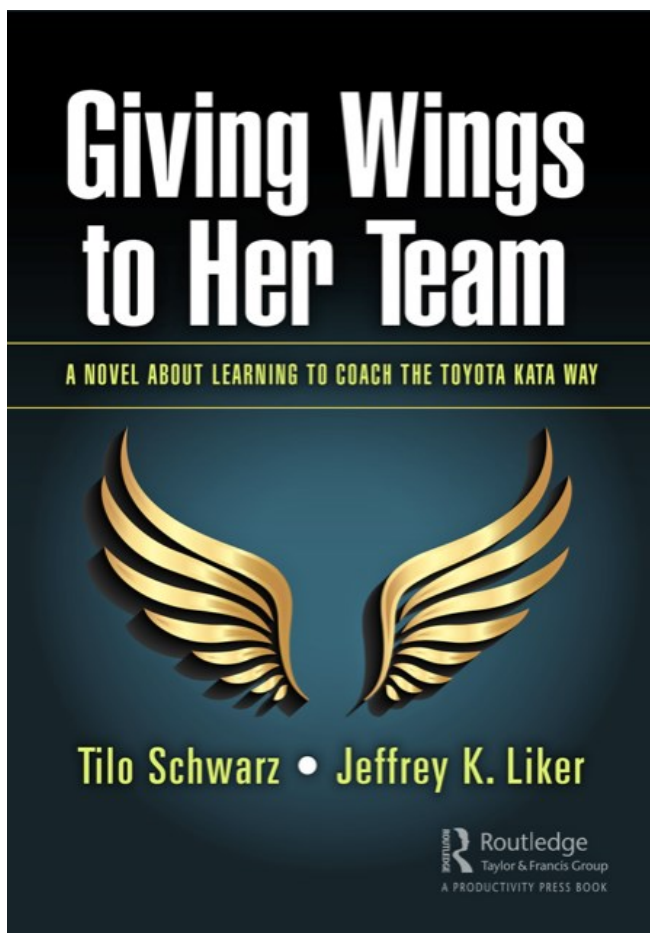
Reducing Changeover Time and learning to coach

Lean practitioners in manufacturing are no strangers to the remarkable results of reducing changeover time through SMED. What took hours can be done in minutes. And often this is done quickly in a several-day workshop guided by the lean expert.

Denise, the book's protagonist and an assembly manager of industrial pumps, was under incredible pressure from her boss to increase production and reduce a mounting backlog of orders. They wanted results now, even if that meant using inefficient means to get them.

Denise wanted more. She wanted to not only meet targets short term, but address each problem at its cause. Even more important, she saw an opportunity to develop and empower her team leaders so they could take control of their processes.

Denise, a former lean consultant, drew on her experience, mapped the process accompanied by her team leaders. Focusing on bottlenecks on the map, they created a bunch of A3s to "eliminate the waste." But then came the implementation phase and her two team leaders showed no signs of engagement — only reasons why it wouldn't work and why they didn't have time. The team leaders were overwhelmed by the tasks and found the A3s confusing. Denise could see her efforts evaporate. Leading a team was so much harder than running a Lean workshop. And she was getting frustrated.



By chance Denise met Maggie, who owned the local gym Denise trained at. Maggie used Toyota Kata with her team to improve customer service and she began coaching. She learned the importance of focus and having clearly understandable goals.

Maggie coached Denise who figured out they could meet the demands by reducing changeover times which would free up the capacity they needed to meet demand. That provided focus.

Denise tried to act as a coach for her two team leaders and set up daily meetings with them. Once they dug into reducing changeover time her team leaders came to life. Creative ideas, experiments, energy flowed. At first, they made great progress drawing on some low hanging fruits and implementing solutions from their experience. But the next obstacles were tougher, beyond the team leader's knowledge thresholds, and for her part Denise was challenged as the coach.

Let's listen into one of Denise's coaching cycles at the time. She was coaching Joe, one of her team leaders who had taken on the challenge of solving quality problems they often had after changeover. In the past days experiment after experiment was failing and Joe was getting increasingly frustrated with Denise's "coaching. Denise desperately drew on all the coaching tactics she had learned in the past:"

“The way to modify a team's culture is not to attempt changing how people think, but instead to start by changing how people behave - what they do.

Denise: *"What are you trying to achieve?"*

Joe: *"Getting that damn quality issue solved."*

Denise: *"What other options can you think of?"*

Joe: *"Nothing. I've tried everything. It's just impossible."*

Denise: *"OK, what else could we do?"*

Joe: *"I don't know! These interrogations you call coaching are driving me crazy. Can't you just tell me exactly what you want me to do!"*



Denise frustrated and losing hope, felt desperate to talk to Maggie. She finally got her the next morning. Let's look in on what happened:

Denise explained what had happened in her coaching cycle with Joe and Maggie listened patiently for a long time. When Denise finally finished, Maggie spoke in an upbeat, even playful voice, "Well, it looks like you are ready to learn how to coach your team leaders now."

"But that's what I've been trying to do," Denise replied, somewhat defensively. "And I do have training in coaching from the consulting company I worked at."

"No, Denise," Maggie replied somewhat sternly, "what you've been doing is checking in with Joe and Mark every day, maybe even checking up on them, but that's not coaching. You're just checking how they are performing in pursuing

their target conditions, and they're feeling overwhelmed. Done daily, that easily turns into micro-managing them, which is the opposite of giving true autonomy, especially if you start telling them what to do. It creates more pressure, tension, and maybe even fear. And fear and creativity don't go together.

Maggie shared Mike Rother's Coaching Kata question card (3). Denise then tried it, asking the questions from memory and missing a few. She realized she needed the card in hand.

Front side

Coaching Kata

The Five Questions

- ① What is your **Target Condition**?
- ② What is the **Actual Condition** now *(pause)* ...and what did you **Learn** from taking your last step?
- ③ What **Obstacles** are preventing you from reaching the target condition *(pause)* ...which ***one*** are you addressing now *(pause)* ...and what exactly is the problem?
- ④ What is therefore your **Next Step** *(pause)* ...and what do you **Expect**?
- ⑤ How quickly can we go and see what we **Have Learned** from taking that step?

Source: The Toyota Kata Practice Guide, 2018, Mike Rother

Back side

Deepening Questions

- ①
- ②
 - What did you plan as your **Last Step**?
 - What did you **Expect**?
 - What **Actually Happened**?
 - What did you **Learn**?
- ③
- ④
- ⑤

Now things got better and Denise realized how the Coaching Kata questions structured the conversation. Of course, just reading the questions was not coaching yet, and Joe still struggled when things got tough.

As the book progresses Denise, with the help of her mentor Maggie, learns to refine her coaching techniques, by trying, reflecting, learning and trying again. It is an iterative learning process for Denise — PDCA applied to her coaching. Every coaching session became an opportunity to run experiments based on the questions she asked and how her team leaders responded, reflect with her coach Maggie, and learn.

And what happened to Joe? As Denise's scientific coaching skills developed, she could refrain from leading Joe with suggestions and help him to scientifically address the obstacles he faced. It became clear that he was randomly trying things, but had not clearly identified the next obstacle to work on or its real cause, preventing him from solving the quality problem.

Through her coaching Denise learned to help Joe study the current condition more deeply and identify the root cause. After that Joe began to innovate with new and different ideas until he solved the quality issues. And they lived happily ever after... Not really. There were plenty more struggles, as you will learn when reading the book.

What did Denise learn?

Denise could have drawn on her Lean consultant SMED skills, done a workshop, and blasted through the changeover time reduction. In fact, once she faced some of the harder problems like the quality issue she too might have struggled. Coaching Joe to do the changeover reduction took time and Denise was under intense pressure to move fast. So what did she gain?

Most obviously through coaching she was able to leverage Joe's deep technical knowledge of assembling pumps in new ways to solve thorny problems and thus eliminate the back log. She got the results senior management wanted.

Longer term, and arguably more important, she began to develop Joe to address problems in a more scientific way. Joe was learning. Joe was growing. And Joe got more and more engaged. He would continue to develop and become far more valuable to the company than if he simply followed orders. As Denise developed more supervisors and managers in scientific thinking she went from the chief thinker and decision maker to coach of a small army of improvers—farming instead of hunting herself.

In competitive and complex conditions speed of learning trumps knowledge and experience. That is why we need learning organizations and this is where Toyota Kata comes in—developing people to think like an empirical scientist, set clear goals, understand

the current condition, formulate hypotheses, and test their ideas. Failure is an option. Failure is what we can learn from. The way to do it safely and successfully is to do it scientifically, failing quickly, and learning fast. It's counterintuitive and can be frightening at times. That's why your team needs you – as a coach.

Giving Wings to her Team is a fun to read novel about you becoming a better coaching leader by learning to develop in others a scientific mindset to pursue complex goals. If you're not coaching yet, this book will help you get started and will show you how to keep getting better at it. If your organization already has committed to a particular method of coaching, the story can help strengthen what you already do and take it to the next level. Our story expands your toolkit as a manager by illustrating a specific kind of management

that builds powerful scientific thinking skills in your team, which can be directed toward any goal.

We firmly believe that you and your team can also achieve what Denise and her team set out to accomplish, whatever industry you work in and whatever your particular goals may be. ■

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References

- (1) Mike Rother, *Toyota Kata: Managing People for Improvement, Adaptiveness and Superior Results*, McGraw Hill, 2021.
- (2) Tilo Schwarz and Jeffrey Liker, *Giving Wings to Her Team: A Novel about Learning to Coach the Toyota Kata Way*, Productivity Press, 2023.
- (3) Mike Rother, *The Toyota Kata Practice Guide*, McGraw Hill, 2022.