

SPECIAL SUPPLEMENT

A Kata for

Daily Practice and Coaching to Develop Scientific Thinking in Any Organization

By Mike Rother and Jeff Liker

Underlying any successful improvement process is Plan-Do-Check-Act (PDCA) or a variant. Lean aficionados commonly preach that we need a mindset change to get people to systematically improve toward clear objectives.

But when we watch how people engage in lean efforts, we see a lot of quick identification of what they assume is a problem, followed by immediate actions that they assume will solve the problem. Follow-through to check what happened and then taking the time to reflect and learn is rare. One problem is that few people have developed a scientific way of improving based on exploration, evaluation and learning. Through this starter kit, we encourage you to use and adapt routines that, over time, can create new habits and improvement capabilities.

Improvement Kata: Pattern and Practice

The Improvement Kata is both a working pattern and set of struc-

tured practice routines used to develop scientific thinking and creativity in any organization. The practice routines are critical, as they provide the opportunity to develop new habits. The more people work with the Improvement Kata, the more your team or organization can be adaptive and successfully meet challenges.

Brain research shows that occasional efforts to improve don't generate the mindset change and culture of continuous improvement that the lean community espouses. What does work is daily practice of specific routines under corrective coaching guidance, along with the positive emotions that come from mastering a challenge. Those are now seen as key elements of skill development and mindset change. As a result, there's

PDCA

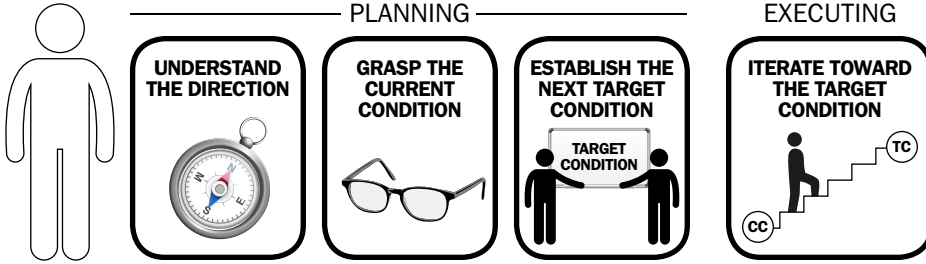
a shift going on toward what might be called next-generation lean thinking. In short, this lean shift looks something like this:

TRADITIONAL LEAN	NEXT-GENERATION LEAN
Periodic event	Daily practice
Staff-led	Manager-led
Eliminating waste	Goal-based improvement

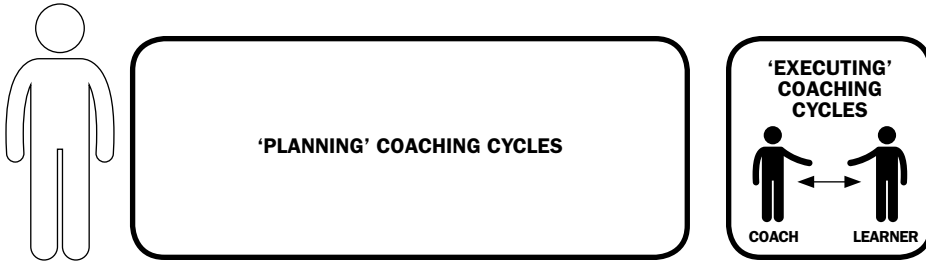
The message of the Improvement Kata is that we can meet nearly any challenge if we practice working together in a more scientific way. We never know exactly what will happen, so the path to any challenging goal — lean or otherwise — involves experimenting and learning. The Improvement Kata provides a handhold for dealing with that uncertainty by giving beginners a structured routine for navigating that gray zone and finding the path to a goal. It's an elegant approach because your team simultaneously works on an important goal and is practicing a way of working that becomes a new habit.



LEARNER — IMPROVEMENT KATA



COACH — COACHING KATA



Teaching the Improvement Kata in Daily Work

The Coaching Kata gives managers a way of teaching the Improvement Kata in daily work. Together, the Improvement Kata and Coaching Kata — illustrated above — constitute a management approach that makes scientific thinking explicit, teachable and transferable. The purpose of the routines is to make initial practicing concrete and deliberate, just like learning any complex skill in sports or music. •

Editor's note: Similar illustrations previously appeared in a *Kata Starter Kit* in *Yokoten Magazine*, published by *Ansbach University* in Germany.

Mike Rother is an engineer, researcher, teacher and author whose groundbreaking research and insights close the gap between the theory and practice of scientific thinking in both business and education. He has previous affiliations with the University of Michigan, the Industrial Technology Institute, the Fraunhofer Institute and the Technical University Dortmund. Rother is a best-selling author. His most recent book, *Toyota Kata*, explains the Improvement Kata and Coaching Kata, which are teachable routines that make scientific working a daily habit and provide a clear path for leveraging human potential. Rother's book, *Learning to See*, co-authored with John Shook, is widely regarded as the standard explanation and guide for the widely used value stream mapping method.

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Liker is author of the international best-seller, *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer (2004)* and has co-authored seven other books about Toyota including *Toyota Culture and The Toyota Product Development System*. His most recent books from 2011 are *The Toyota Way to Continuous Improvement* and *The Toyota Way to Lean Leadership*. His articles and books have received 11 Shingo Prizes for Research Excellence. In 2012, he was inducted into the AME Hall of Fame.

The assistance of Lea Tonkin in the development of this article is appreciated.

Using the Starter Kit ▶

The Starter Kit on the removeable insert at right provides two structured routines — one for the Learner and one for the Coach — that make it easy to conduct experiments every day. The kit doesn't give you everything you need to know about the Improvement Kata and Coaching Kata; it's focused on the executing phase of the Improvement Kata. These two routines, plus pencil and paper tools, are particularly useful.

You can find a straightforward set of instructions for these two routines, including a how-to video, through SlideShare at www.slideshare.net/mike734/pdca-fast-start. •

