

WHAT IS SCIENTIFIC THINKING?

Scientific thinking is different to the ‘scientific method’.

The four steps of the Improvement Kata parallel a scientific approach. Further, at step 4 of the Improvement Kata – Experiment toward the Target Condition – the learner needs to be thinking scientifically. The Coaching Kata is a way of helping a person develop a ‘scientific thinking approach’ to improvement through small ‘obstacle addressing steps’ connected to what has just been learnt.

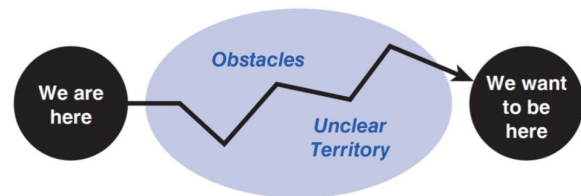


Scientific thinking is a process of deliberately engaging reality with the intent of learning. At the core of scientific thinking is continuous curiosity about a world we will never fully understand, but we want to take the next step to understand a little better. It is a continuous comparison between what we predict will happen next, seeing what actually happens, and adjusting our understanding and actions based on what we learn from the difference.

Scientific thinking is knowledge-seeking, which means acknowledging that our existing comprehension is always incomplete and possibly incorrect. It’s a way of thinking and working by which we advance the accuracy of our understanding.

Scientific thinking is not just for professional scientists, but a widely-applicable skill for everyone. Scientific thinking is something you do, such as a team of people relying on scientific thinking in striving for a challenging goal. It’s a ‘meta skill,’ i.e. a universal way of thinking and

working that can be used to counteract your cognitive biases anytime you try to achieve a goal or solve a problem.



Scientific thinking is not the same as the ‘scientific method,’ but rather a mental framework for approaching goals and problems. Whereas the scientific method is a fairly strict routine for studying phenomena, a scientific-thinking approach is a more practical routine for achieving goals and dealing with obstacles in everyday life.

Scientific thinking is not our natural way of working, but anyone can learn to think more scientifically by practicing the simple starter routines of the Improvement Kata and Coaching Kata.

By Mike Rother. Illustrations from the Toyota Kata Practice Guide (McGraw Hill, 2018)