

UNLEASHING SCIENTIFIC THINKING THROUGH THE META-PATTERN OF THE IMPROVEMENT KATA

Scientific thinking can be a powerful driver of progress, a powerful driver of Lean; many applications exist including the Improvement Kata.

The Improvement Kata/Coaching Kata approach is a meta-pattern that gets us to use the reps we need to unleash any application of scientific thinking.

A MEANS TO AN END ...	IMPROVEMENT KATA (everyday science)	Improvement Kata commentary (with example)	PROFESSIONAL SCIENCE	Professional science commentary (with two examples, A and B)
<p><i>Lean 1.0</i> In the 1980's and 1990's we visited Toyota and came back with ...</p> <p>Waste reduction ↓ Performance improvement</p>	<p>Challenge (Understand the Direction)</p>	<p>The aim of the 'effort'. In Improvement Kata:</p> <ul style="list-style-type: none"> The goal is better service a business need (external customer or can be internal); trying to achieve something. A challenge is an overall direction-giver that completes the sentence, "Wouldn't it be great if we could ..." <p>Four sheds (~60,000 chickens per shed) on an intensive chicken farm safely run by one person by 31 December 2018.</p>	<p>Research topic</p>	<p>This is the topic area, the aim of the 'effort'. In professional science:</p> <ul style="list-style-type: none"> The goal will be to better understand; to reveal or shed light on something that exists. Better understanding will permit something to be done better, more efficiently perhaps. This is like the challenge being connected to the vision. <p>A. Social networking B. Cyberbullying</p>
<p><i>Lean with a "Toyota Kata Mindset"</i> In the 2000's we researched Toyota's management system and found ...</p>	<p>Grasp the Current Condition</p>	<p>What facts and data do we have now or can we obtain? What do we know now?</p> <p>Normally two people; three 'accidental near misses' in the last month associated with moving migration fences; one migration fence takes four - five minutes to move.</p>	<p>Secondary (or background) research</p>	<p>What facts and data do we have now or can we obtain? What do we know now?</p>
<p>Striving for/achieving target conditions ↓ Performance improvement</p>	<p>Next Target Condition</p>	<p>Based on where the facts and data are showing we are now, where do we suggest we need to be next (and by when)?</p> <p>One person safely moving (lower and put up again in new position) the migration fence in 15 seconds or less.</p>	<p>Research question</p>	<p>This is the research objective, the hypothesis. In professional science – what part of the whole are the facts and data suggesting we need to better understand next?</p> <p>A. How are online users experiencing or addressing privacy issues on social networking sites like MySpace and Facebook? B. Is there a connection between those who troll on the internet and those who engage in cyberbullying?</p>
<p>By-product: Waste reduction</p>	<p>Obstacles</p>	<p>What is stopping us now from being where we need to be next?</p> <ul style="list-style-type: none"> Nuts awkward to undo (↑ current focus obstacle). Need to really pull hard and jerk the bracket off the wall. Short people need a second person's help. 	<p>Research problem</p>	<p>What is stopping our understanding now, what facts and data are missing?</p> <p>A. Age of the social media user might be a factor in degree of a person's privacy concern. We don't know an age range associated with concerns. B. Gender may be a factor in those who cyberbully. We don't know the gender breakdown associated with cyberbullying cases.</p>
	<p>Experiment (against the focus obstacle)</p>	<p>PDCA Reverse the bolts so the thread is on the opposite side of the bracket.</p>	<p>Experiment</p>	<p>PDCA A. Conduct a survey, analyse the data to see if there is an age association. B. Analyse the data to see if there is any gender correlation.</p>