

Lean Enterprise Academy



LEA e-letter –2 August 2007

What to Teach the Kids

Dear Lean Community Member

As we take a summer break I was wondering how we should help the next generation to compete in the increasingly global economy. Experts looking at the rise of China and India conclude that we need to teach our children more maths and science, because that is what they are doing. This may be part of the answer.

But lean has also taught us that all of us live and work in many quite complicated interdependent processes (value streams). We are spending more of our “own” time managing the consumption processes to run our households. We are also spending more of our “work” time trying to straighten out value streams that cross departments and other organisations across the globe.

As a result of this we discover that working together (with colleagues and suppliers) to improve these end-to-end processes can actually have a much greater impact on competitiveness (and living standards) than point improvements in the way work is done or in technology. So the first thing we need to teach them is how to see the world in terms of processes rather than discrete activities.

Lean process thinking requires a different consciousness of the purpose of each value stream and how it actually works in practice. But it also needs a common way of thinking and working together with others up and down these value streams to manage and improve them. Therefore possibly the most important thing we can help the next generation to learn is not just science and technology, but how to use the scientific method itself to improve all the processes in their lives.

The experimental, scientific method is of course fundamental to solving scientific and technical problems. Shewhart, Deming and others in the quality movement showed the power of the Plan, Do, Check, Act problem solving cycle in understanding and removing the causes of variance in all kinds of situations. But it was Toyota who took this one step further and built their whole management system around the use of the scientific method to plan every action, to solve every problem and to develop every employee.

Common use of the scientific method is the glue that makes a process focused organisation work. It also turns out that a process focused environment is the most likely to ensure continued and widespread use of the scientific method. They actually go hand in hand. One without the other does not work for very long.



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Knowledge of the scientific method is best developed through the repeated experience of solving ever more challenging problems and planning ever more ambitious process improvements. But it needs to be guided by a sensei or teacher who challenges the pupil to develop their thinking by asking the right questions, rather than simply telling them the answers.

The place to begin this journey is to give each pupil a problem to solve that is within their scope to address (not how to solve the greenhouse effect!), and to show them a common way of summarising the steps in solving the problem on one A3 sheet of paper. Then ask the pupil to go away and come back with an accurate description of the problem and the situation. The teacher's job is to get the pupil to really understand the problem and to think about how they would know when it had been truly solved, avoiding the natural instinct to jump to solutions that may or may not be relevant.

Then through a series of iterations the teacher helps the pupil to systematically brainstorm several alternative ways of solving the problem and once these are agreed to develop a plan to try these out, if possible one at a time, measuring the results as they proceed. Once they have the evidence of which actions do solve the problem and which do not, then they need to reflect on the lessons learnt, how these could be incorporated into common procedures and who else might benefit from these findings.

Change the words pupil and teacher for manager and their subordinates and you can see what should be happening at every level in your organisation too. But is it? We all know PDCA, but is it only actually used by your quality people? Is it part of a common A3 language for problem solving and planning? Is it the key language for the development of your people?

Do your managers really understand enough about their processes by going there frequently (rather than waiting for someone to bring them the numbers) so they can ask the right questions to guide their subordinates? Do they have time for this or are they more interested in (repeated) quick fixes to fight today's fires or make this month's numbers? Are your problems visible or hidden?

I am convinced that we will hear more about the use of Toyota style A3 planning and problem solving in the months ahead. Indeed I doubt that any firm can really make and sustain their lean journeys without making this a fundamental part of the way their management works.

Developing the abilities of our employees and citizens to use the scientific method to plan effective action and to solve problems together with others is probably the best investment we could make to improve the

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competitiveness of our organisations and the living standards of the population.

Have a good summer break.
Best wishes

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