

# LEAN PROGRESS

Ideas for helping your company transition to lean effective and rapidly.

LEAN LEARNING CENTER

ISSUE 16  
June 2009

## Principles and Practices—Not Always the Same in these Tough Times

*By Andy Carlino, Co-Founder and Partner of the Lean Learning Center*

The approach toward lean that many companies take during these difficult economic times often is not reflective of the principle that companies preach. First let me state that I am likely “preaching to the choir” in most cases since many of you who receive Lean Progress are Lean Learning Center alumni. Regardless, the message is too important to be ignored.

As many of you know, we espouse a very simple formula: principles (thinking) equals behavior and behavior equals results. So it’s not too difficult to understand that if you get the principles right then you will get the right results. This is a simple formula that’s actually easy to execute when times are good or easy. The difficulty with this formula is the ability for individuals and companies to live by their principles when times are tough, and I don’t think anyone would argue that these are tough economic times. The key message is

that your true principles are exposed when things are difficult not when things are easy. Here are a couple of examples:

- A global manufacturer of heavy equipment professes the principle “Quality is the driver within the organization controlling all our thinking and actions”. In 2008 the demand for product far exceeded their capability to meet the demand. In one plant it was not unusual for them to ship a product that they knew had a minor quality problem or had not been upgraded with the most recent engineering improvement. The principle of “quality first” became “we can fix it in the field.” The quality principle was sacrificed when it became difficult to meet demand. However, in the same organization but at a different plant, they quarantined significant product

and sacrificed monthly results to assure customer quality. The choice was to sacrifice short term results. Imagine how difficult it was to adhere to their quality principle with the corporation breathing down their neck for results.

- Companies have a principle of honoring the dignity of its employees. Again, typically not a problem when things are easy. However, not so easy if there is employee unrest or if the company has to undertake a reduction in workforce. Many years ago I was working with a Fortune 500 company that unfortunately had to reduce its workforce, it was simply unavoidable. Employees came to work at 7:30AM and found that their security entry card didn’t work. When they inquired at security they were told, by the security guard, they had been laid off. In another company facing the same challenges, each employee was personally counseled on their financial, educational and vocational options. Big difference in behavior if you live by

### INSIDE THIS ISSUE:

Principles and Practices	1
An Approach to Sustaining Lean Improvement	3
Work Smarter AND Harder	8
Lean Toolkit: A3	9
Single Point Lesson Expansion	11
Lean Learning Center Announcements	12



WWW.LEANLEARNINGCENTER.COM





**IF A COMPANY  
CANNOT PRACTICE  
THIS PRINCIPLE  
BECAUSE IT'S THE  
RIGHT THING TO DO,  
THEY SHOULD AT  
LEAST PRACTICE THIS  
PRINCIPLE BECAUSE IT  
IS THE PRACTICAL  
THING TO DO.**

your principles.

Over the last several years I have yet to encounter a company that doesn't have, in one way or another, the principle of lean/continuous improvement. It is often stated very differently but the intent is always the same, improve performance with every opportunity. Again, a very easy principle to practice in the good times. However, these are tough economic times and it's this principle of continuous improvement that I see violated the most. It is disturbing to see how easy it is for companies to slash budgeted line items for training, improvement workshops, employee development, systems development, or other initiatives that can contribute to improvement in their performance and ultimately their ability to succeed. This is often because these line items are viewed as an expense versus an investment. I understand and recognize that you must consider your ROI and the CI principles may no longer be valued as highly as the principle of "cash is king," however, more often than not companies have violated their CI principle without even investigating ROI. Also, it's important to recognize that this is just as much about an unwillingness to invest internal resources as it is external resources. If a company cannot practice this principle because it's the right thing to do, they should at least practice this principle because it is the practical thing to do.

Companies always look to gain a competitive advantage and hopefully gain market share. In today's economic environment it is as much or

more about maintaining market share than it is gaining. The following are some primary operational means, albeit not all, to become more competitive in this environment, not considering new product/service development and introduction:

1. The competition simply goes away because they can't compete. Certainly desirable but uncontrollable and not a sustainable strategy.
2. You can cut the price of the product or service. Certainly controllable but not desirable. Maybe necessary for short term survival but typically a disastrous long term strategy.
3. You can cut your cost and your price. Controllable and definitely desirable but regaining price and margin in the future could be difficult.
4. The best of all worlds is to cut cost, maintain price and improve service. Both controllable and desirable as well as being a sustainable advantage.

Obviously numbers 3 and 4 are the only desirable options both of which can be achieved through the application of lean principle and practices. Don't just believe me, believe the results.

- Large regional dairy providing milk, ice cream, butter and other dairy products to a very wide variety of retail customers chose to undertake their lean journey essentially in the midst of the difficult economic times. The results are interesting and can be directly at-

tributed to the lean initiative.

- On time delivery improvement from average 93.9% to 99.8% Some customers went from 81.5%, 86% and 88% to 100%
- Load fill rates from 97.9% to 99.7%
- As one of the company executives said "the best way to characterize the improvement is that we stopped losing business. So far this year, we've added 5 new key account customers for a total of about 7% growth, with really only 1 of those customers (2% growth) being sold on the concept of improved customer service. But the real story is in accomplishment of having stopped the exodus of customers due to the service issues that they could no longer live with, and we have not lost a single customer this year due to service issues."
- Over \$250,000 of savings this year already. These are not just one time savings but savings that will be experienced year after year.
- March was the most profitable month in approximately 2 years
- A major player in global



metals processing arena has been on their lean journey for several years and in 2009 they have increased their investment in lean. In one plant they are experiencing the best results they have ever had including:

- Documented savings of \$380,00 YTD
- Efficiency in the first major piece of equipment in their process has in-

creased month after month from an efficiency rating of around 77% last October to about 93% this April.

- Maintained profitability even as the market price for their product dropped over 60% from its high in 2008.

These two organizations experienced many other benefits that were either not quantifiable or had not been quantified. It is being

proven over and over again that there is no question that a thoughtful and planned investment in lean principles and practices, even if you don't think it is the right thing to do, is obviously the practical thing to do. Reexamine your lean implementation plan. Determine which of those lean initiatives will provide you sustainable results and not just simply some short term returns. Also, examine what you should be doing so will you be in position to take advantage when the economy rebounds, and it will. Practice the principles.



## An Approach to Sustaining Lean Improvement

*By Susan Pleasant*

### *Overview*

Lean improvement implementation depends on the collective thinking and actions of a team of people working together to drive a new outcome. Break-through initiatives are developed, tested, and launched. The team leading the initiative usually has high agreement and strong energy about the change. The new process delivers the expected results and often recognition occurs. However, many of these changes begin to deteriorate over time and regression to the prior methods occurs. The objective of this article is to offer a tool for improving the sustainability of new processes and outcomes.

### *Challenges in Sustaining*

**SITUATION 1: CHANGE-OVER TIME REDUCTION**  
Changeovers were an opportunity for the plant. Demand was increasing, and capacity was constrained. Root cause analysis indicated that 25% of consumer complaints were generated during changeovers. Order fill statistics would improve with improved changeover processes as well. The plant manager believed this would be a visible, high return process for a kaizen team project. The team was well facilitated, developed new processes, and delivered significant improvements in measured outcomes. The team implemented plans. At the end of three months, audits of the process across the operation revealed that the new practices had been replaced by

the old methods in many places.

**SITUATION 2: WASTE ELIMINATION PROJECTS**  
The production manager and her team found waste walks to be a method to generate rapid, small improvements driven at the technician level. They started a Waste Elimination Projects (WEP) program. She scheduled a weekly waste walk on each shift with different participants. Opportunities were documented, ideas were generated and implemented by individuals, and improvements recognized. However, as time passed, many of the waste points identified and solved earlier were beginning to creep back into the system.

### **WHAT HAPPENED**

After Action Reviews of both situations surfaced predictable responses from the participants:

- “The supervisors on second and third shifts didn't

**“SUCCESS IS NOT FINAL, FAILURE IS NOT FATAL: IT IS THE COURAGE TO CONTINUE THAT COUNTS.”**

**-WINSTON CHURCHILL**



**WHEN THE PRIMARY IMPROVEMENT IN A PROCESS IS CENTERED ON CHANGING HUMAN BEHAVIOR, THEN A TOOL TO ORGANIZE ACTION PLANS AND WORK MAY BE USEFUL.**

- “make his/her people do it. The department manager was too busy to check on them.”
- “They didn’t tell me about the change.”
- “It was going well until the next priority came along.”
- “I implemented the project on my shift, but I didn’t get the time to tell the other operators about it.”
- “Working on waste walk ideas was great until new priorities surfaced. Then I didn’t have time anymore.”
- “We did the kaizen, showed everyone how to do it, and the minute management stopped driving it, the results stopped.”
- “If the Plant Manager wants these lean projects to work, he is going to need to be involved and show that it is important. If he doesn’t emphasize it, it won’t happen.” “Shift change is a busy time. I don’t have time to personally check on everything these guys do during changeover.”
- “The team sees the value, and they have been trained in Lean. I don’t understand why they dropped the actions.”

Problem Statement:  
“Standard work changes necessary for sustaining new processes were not clearly defined and communicated to all involved in the performance management system.”

It is an unfortunate fact that many companies are unable to sustain the gains made during their lean journeys. In fact, less than half of lean improvements and training actually produce meaningful and measurable results unless there has been a complete corporate culture change to lean thinking.

As organizations move through lean transformation sustaining usually surfaces as a challenge. At the most basic level process improvement and waste elimination initiatives provide evidence of the value of lean. Sustaining the process and outcome is a challenge that warrants consideration. When the primary improvement in a process is centered on changing human behavior, then a tool to organize action plans and work may be useful.

#### *The Six Boxes<sup>1</sup>*

The Six Boxes described by Binder in his research suggest a way of organizing the variables that affect performance. The six variables are:

#### **Provided by the Organization**

- Expectations and Feedback. This is information provided that defines what performance is expected, under what conditions, and the metrics and methods of assessing how well the expectations are being met.
- Tools and Resources. This variable includes the definition of the process, the standard work instruction, the tools and resources nec-

essary to meet the expectations. It includes the “what and how” of performance.

- Incentives and Consequences. This category of influence considers the full range of incentives and consequences to be experienced if performance does or does not meet expectation. It includes the impact to downstream customers and departments, informal social impacts, as well as structured actions defined by the work team or management. This category also includes things that punish those for doing the right thing.

#### **Provided by the Individual**

- Skills and Knowledge. Individuals are expected to have the skills and competencies to deliver the expectations. These skills may be developed through training experiences provided through the organization, or from external methods. According to Binder “... investing in this category can be relatively unproductive if done without ensuring that influences in the first three [categories] are aligned.”<sup>2</sup>
- Capacity (Selection and Assignment). These are the individual qualities and characteristics that a person brings with them to the work assignment such as work ethic or social skills.
- Motives and Preferences. This category includes one’s attitude

<sup>1</sup>Binder, Carl. “The Six Boxes: The Descendant of Gilbert’s Human Engineering Model.” *Performance Improvement*/ July August 1998.

<sup>2</sup>Binder, Carl. Pg 49.

Table 1 "The Six Boxes"

Provided by the Environment or Organization	(1) Expectations and Feedback	(2) Tools and Resources	(3) Incentives and Consequences
Provided by the Individual	(6) Motives and Preferences	(5) Capacity	(4) Skills and Knowledge



*The boxes are numbered to indicate the sequence in which performance must be defined and developed for an effective outcome.*

towards the job and satisfaction with the job assignment.

**Linkage to Lean and Sustaining Continuous Improvement**

The Six Boxes provide a tool to organize thinking when considering implementation of change that reduces non-value added work. The organization provides the first three and often provides the

fourth, training, when new skills are needed.

When implementing a new process there is a window between the launch of the new process and the time the process has become engrained as the "new routine." It is in this timeframe that all connections in the performance management process need to be considered. The Six Boxes variables need to be defined for the Performer(s), the Next Level Manager(s) (NLM), as

well as the Unit Leadership. Adherence to the new process wanes if the standard work and connections are not clear. Table 2 defines connections that may need to be defined when introducing new methods.

Expectations and standard work for Next Level Managers and Unit Leaders will be different in the first 1-3 months after the new process is introduced.

**THE SIX BOXES PROVIDE A TOOL TO ORGANIZE THINKING WHEN CONSIDERING IMPLEMENTATION OF CHANGE THAT REDUCES NON-VALUE ADDED WORK.**

Table 2 Organization Impact Boxes with Role Connections

	Expectations & Feedback	Tools & Resources	Incentives & Consequences	Skills & Knowledge
<b>Performer</b>	<ul style="list-style-type: none"> <li>Standard work definition to include why, what, and how.</li> <li>Metrics &amp; control point checks that measure effectiveness.</li> <li>Method to collect data &amp; assess results to standard. Includes work area score board.</li> </ul>	<ul style="list-style-type: none"> <li>Identification of credible experts.</li> <li>Tools required.</li> <li>5S set-up &amp; visual management.</li> <li>Andon, escalation process.</li> <li>Location of documentation &amp; references.</li> <li>Scheduled reflection &amp; learning reviews.</li> </ul>	<ul style="list-style-type: none"> <li>Define from performer's point of view the barriers/potential negatives for doing the new process.</li> <li>Recognize learning events</li> <li>Actions to be taken when new process becomes routine.</li> <li>Defined steps for dealing with non compliance.</li> </ul>	<ul style="list-style-type: none"> <li>Definition of how performers will be trained, certified, &amp; given opportunity to develop proficiency in the new methods.</li> <li>Check for inclusion in training documentation for new employees.</li> </ul>
<b>Next Level Mgr/ Team Leader</b>	<ul style="list-style-type: none"> <li>Leader standard work defining what is expected of the NLM regarding follow up on new process.</li> <li>Metrics, control point checks required.</li> <li>Role in review, reinforcement of new process.</li> </ul>	<ul style="list-style-type: none"> <li>Identification of NLM expert.</li> <li>FAQ's</li> <li>Likely failure mode definition for Andons</li> <li>Shift change checklist modification</li> <li>Time for areas NLM's to reflect, discuss learnings.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment on incentives, consequences for performers</li> <li>Process to communicate recognition to leadership</li> </ul>	<ul style="list-style-type: none"> <li>Ensure training occurs for new performers joining the unit work.</li> </ul>
<b>Unit Leader</b>	<ul style="list-style-type: none"> <li>Communication, "gemba" walks to observe and reinforce change importance</li> <li>Inclusion on Unit Scoreboard to monitor progress</li> </ul>	<ul style="list-style-type: none"> <li>Test sustaining actions as new priorities are introduced.</li> <li>Understand unit learning occurring</li> </ul>	<ul style="list-style-type: none"> <li>Recognize results, learnings, sustained track.</li> </ul>	

*Table 3 Team Worksheet*

ROLE	EXPECTATIONS & FEEDBACK	TOOLS & RESOURCES	INCENTIVES & CONSEQUENCES	SKILLS & TRAINING
Performer				
Next Level Manager				
Unit Leader				

*Table 4 Changeover Time and Waste Elimination Plan Review*

OBSERVATIONS	SOLUTIONS
The changeover time scoreboard had not been completed by every shift for every changeover.	<p>EXPECTATIONS &amp; FEEDBACK. Standard work was developed defining team member ownership. Review of the metric was included in shift change checklists and team huddles at start of the shift.</p> <p>TOOLS AND RESOURCES. A stopwatch was attached to the scoreboard and included in 5S to make timing easy.</p>
Some teams had operators designated to manage communication to other departments during changeover. Some teams relied on supervision communicate. The department layout made it difficult for employees to request help.	<p>TOOLS &amp; RESOURCES. The team reviewed the process again, spaghetti chart mapping process steps for people and information. Andon lights were set up in two locations. Supervision control point charts were updated for notes when Andons were activated.</p>
A cabinet was put in the department to provide easy access for supplies required for the changeover. The cabinet was not stocked.	<p>EXPECTATIONS &amp; FEEDBACK. A role on the team was designated to replenish the stock levels at the end of each changeover.</p> <p>TOOLS &amp; REOURCES. The cabinet was included in 5S. Doors were removed to make observation easy. Stock levels for one changeover were designated.</p>
During the last two months the seasonal volume peak had arrived. Several new temporary employees had been assigned. Cross-trained employees on the team shortly after the kaizen were in different roles and departments for peak.	<p>SKILLS. Training programs were modified to include changeover procedures.</p> <p>EXPECTATIONS &amp; FEEDBACK. Changeover roles were clarified by supervision when new individuals joined the team.</p>
Waste Elimination Project idea implementation was inconsistent. There was no process to communicate the solutions effectively to affected associates.	<p>EXPECTATIONS &amp; FEEDBACK. WEP metrics were modified to be the sum of ideas generated and ideas implemented.</p> <p>TOOLS &amp; RESOURCES. A method to post approved WEP solutions was developed. WEP posting stations were set up in each department. Associates generating WEP ideas presented ideas at team meetings each week.</p> <p>INCENTIVES. Teams having the highest total WEP idea generation and implementation were recognized and given incentive rewards.</p>
Plant Manager had been very involved in forecast revisions and customer meetings in recent weeks. Time on the floor had been limited.	<p>EXPECTATIONS &amp; FEEDBACK. The Plant Mgr and Staff added a scoreboard to the plant “war room” that monitored implementation status of projects as well as WEP idea totals by department. This made it easy to see status at a glance. The Plant Manager scheduled weekly project walks through the facility to observe and recognize</p>

**USING  
OBSERVATIONS  
FROM FLOOR WALKS  
AND INTERVIEWS  
THE TEAM  
ORGANIZED THEIR  
OBSERVATIONS AND  
PROPOSED NEXT  
STEPS USING THE  
SIX BOXES TOOL.  
(TABLE 4)**

A higher frequency of follow-up and visible support for the new procedure will be needed. As the process becomes the new habit, frequency of intervention required will go down. In addition, in the first month teams using the new process may find steps that do not work as well scaled up as they did in test. The Team Leader and Sponsor need to be prepared to conduct After Action Reviews as the procedures are expanded to the full operation. Improvements to the process need to be documented in Standard Work and training materials.

*Application*

Let's go back to the situations described on the first page. The Plant Manager met with the staff and team leaders to understand the challenges with the two initiatives, Changeover Time Reduction and the Waste Elimination Program. Using observations from floor walks and interviews the team organized their

observations and proposed next steps using the Six Boxes tool. (Table 4)

With the changes noted in Table 4, changeover time returned to the goals set by the team. The Waste Elimination Program gained new momentum. Follow-up frequency for management and leadership was defined for each month after launch with a goal of achieving "routine established standard" at the end of three months. The plant leadership decided to include a worksheet for teams using "The Six Boxes" as part of the project team packages to assist teams in organizing new idea launch requirements.

The plant decided to focus on the first four boxes as the last two, Capacity and Motives were individually controlled. Teams used the worksheet to organize their observations of the current state so there was thorough understanding of how each role

in the team contributed to the current process. The worksheet was also used to organize solutions for improved or new processes to ensure necessary connections were considered.

*Summary*

Processes that are primarily composed of human performance are driven by six components: 1) expectations and feedback; 2) tools and resources; 3) incentives and consequences; 4) skills; 5) individual capacity; and 6) individual motivations. The system of managing performance includes connections between performers, managers, and unit leaders. New or improved processes have higher sustainability when current state and changes consider each of these dimensions.

**AS THE PROCESS BECOMES THE NEW HABIT, FREQUENCY OF INTERVENTION REQUIRED WILL GO DOWN.**

Susan Pleasant is a Senior Consultant specializing in Lean Systems, Procurement, Manufacturing, Supply Chain, Quality and Customer Service. Formerly Senior Vice President of Manufacturing and Supply Chain for Wise Foods, a \$400 million manufacturer of snack foods, Susan was responsible for procurement, manufacturing, contract manufacturing, warehousing, transportation, quality, and engineering. Utilizing Lean manufacturing principles and tools, she helped reduce operating costs 3.3%, reduced inventory 22%, reduced changeover time 28%, and reduced downtime and maintenance expenses over

10% at 12 factories.

Recent assignments include developing and implementing training and lean systems for a global provider of wind turbine components. Susan also is responsible for the complete organization realignment of a major auto transport company to combat the impact of reduced volume and higher costs.

Susan led the design and implementation of new products commercialization process at three companies resulting in 100% of products being launched on time and under budget while delivering planned inventories. She es-

tablished continuous improvement and productivity processes at every company, internal to operations as well as company-wide cross-functional teams.



## Work Smarter AND Harder



**JAMIE FLINCHBAUGH,  
PARTNER AND CO-  
FOUNDER OF THE  
LEAN LEARNING  
CENTER, OFFERS  
LEADERSHIP TIPS IN  
LEAN PROGRESS.  
READ PAST COLUMNS  
AT:  
WWW.LEANLEARNING  
CENTER.COM**

*By Jamie Flinchbaugh*

*This article originally appeared as the Leading Lean column for the November 2008 issue of ASSEMBLY Magazine*

Perhaps the most often used phrase in association with lean is “work smarter, not harder.” The concept has been true virtually forever. Moving huge blocks of stone across the desert to build a pyramid, getting the most crops out of an acre of soil, and making more shoes from a day of labor, are all problems solved best by ingenuity and innovation.

Lean is no different. Why push when you can roll, or lift when you can lever? We should certainly be using our brains, finding ways to get more output from the available resources. The key to productivity, quality and profitability is indeed working smarter. In fact, one excellent way of eliminating waste is by eliminating unsmart hard work.

The most common approach used by organizations not using lean is just working people harder, faster or longer. I would argue that working faster is perhaps the most popular solution to barriers that exist today. Whether we owe a report at the 11th hour or are late for work, speeding up is an everyday solution. We clearly know the flaws in this approach, hence the need to “work smarter, not harder.” As often as that phrase is used, I feel it ends up delivering the wrong message.

Lean itself is hard work, and a truly lean organization works hard. In fact, Toyota’s roots are in a region that is rural, entrepreneurial and hard-working. That re-

gional culture was recognized as a part of its success, and is embedded quite naturally into what we now call the Toyota Way. Lean is about working hard.

The work of improvement itself is hard work. Many of you have probably been part of some continuous improvement workshop or kaizen event that went well into the evening or night. It was done because that was what was required to meet the deadlines and the goals, and people’s energy drove them towards that. Anyone will testify that they’re outright exhausted at the end of these events.

Furthermore, lean requires the use of creativity before capital. We can’t buy ourselves out of waste, because that would only replace the waste. The only way to really eliminate waste in a lean way is through creativity. New ideas help us solve clearly identified problems. But creativity is hard work. As problem-solver extraordinaire Thomas Edison stated, “Genius is one percent inspiration and 99 percent perspiration.” Anyone who has overcome a tough problem knows exactly how that feels, and it continues to be true no matter how many times we experience it, whether or not we have the brainpower of Thomas Edison.

Lean is also a battle of willpower to overcome the resistance to change. This, of course, is a battle to win the hearts and minds of those in



our organization. People must ultimately make up their own minds to become committed to the journey. Regardless of the size of your organization, that is a lot of work. Stamina, persistence, creativity and constancy of purpose are required of lean leaders. Perhaps the hardest part is that no one ever says “thank you for getting me engaged.” It is more likely they just act as if they always were engaged.

Finally, a lean organization pursues perfection every day. There is no rest, as perfection is not attainable. Pursuit of perfection is driven by a need to not just satisfy but dazzle every single customer, past, present and future. The pursuit of perfection drives an organization to work hard every day. Everyone knows that this requires a great deal of work. Everyone who is committed to lean is willing to work towards this pursuit, especially including you. After all, lean begins with you.

*Jamie Flinchbaugh contributes a regular column Leading Lean to ASSEMBLY Magazine. Visit [www.AssemblyMag.com](http://www.AssemblyMag.com) for more information.*

# Lean Toolkit: A3



**Proper Uses of Tool**

1. A waste-free report writing/communication method based on structure and simplification
2. A structure process for guiding a person's or group's thinking through problem solving, improvement or project using lean thinking

**Improper Uses of Tool**

1. To only use A3's after the fact when all the work is complete

**Description of Tool – How-to**

A3s started as primarily a report writing tool but have expanded to include a structured thinking process. The name is essentially the European equivalent of 11"x17" paper. The objective is to write reports using one sheet, versus lengthy documents or long PowerPoint presentations. Given the amount of time and resources most companies spend on developing, distributing and reviewing reports, relative to the provided value, this is perhaps one of the biggest wastes worth tackling.

The format of an A3 is basically splitting the piece of paper into four quadrants, although this can vary depending on the type. The basic four

quadrants are (a) in the upper-left quadrant is the business case or problem being worked on, (b) the lower-left contains an analysis or presentation of the current condition, (c) the upper-right quadrant describes the target condition which you wish to move to and (d) the lower-right quadrant includes the actions to be taken and final results achieved.

Variations of the format exist for status updates, problem solving and others. It is important to have a standard format for any use of the basic A3 approach. If individuals create variations then the waste eliminated by having a standard format is voided. It is also useful to not generate A3s through computer programs but with pencil, which encourages pictures over words and promotes simplicity of content.

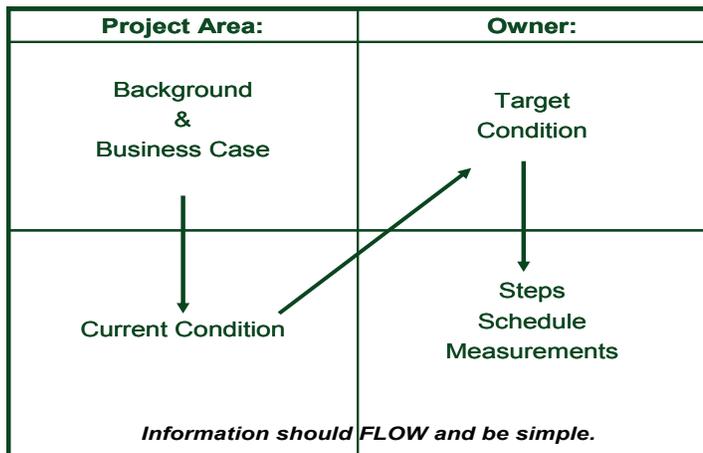
The extended benefit of the A3 is that if it used as a living document, meaning it is used as the individual or team does the work and not just for a post-work report, then it can help structure the thinking used to solve the problem or make the improvement. This can be a significant benefit as lean projects get started to help make the thinking, and not just the results, more visible. This is the primary focus as we describe each of the four quad-

rants in greater detail.

The upper left-hand quadrant covers the business case for this project or activity. This is the clear articulation of why this improvement or project needs to happen.. Whenever possible, this should include related metrics which can be used later during the verification phase. An effective symptom or problem statement should be written here. This is the first opportunity for a coach, executive or team to engage around lean thinking before moving on as writing effective problem statements is a difficult but critical task.

The lower left quadrant comes next and is where the current condition is explored. This is often a skipped part of the process when the A3 is not used. When most problem solving jumps from the problem to the solution, it is important to understand the current state. This is essentially

**IT IS IMPORTANT TO HAVE A STANDARD FORMAT FOR ANY USE OF THE BASIC A3 APPROACH.**





**ONLY WHEN THE ACTUAL RESULTS HAVE BEEN ACHIEVED SHOULD AN A3 BE FINISHED; IT SHOULD BE CONSIDERED A LIVE, ACTUAL DOCUMENT UNTIL THAT HAPPENS.**

the answer to the question: ‘why are we getting the result we are currently getting?’ This should focus at the systems level, or the cause, of the current result. Pictures, process maps or other representations of the process are most effective for this quadrant. Language or depictions of activities, connections and flows should dominate the explanation here.

The upper right quadrant is a part of the thinking process that is also often skipped. This is also a description of the system-level but instead describes the target condition. The target condition is what you would like to move to. It is NOT the solution or action we plan to take. When we don’t consider the target condition, we often either remove the symptom of the problem without really fixing the system or we miss a great deal of opportunity in taking the system to a higher plane of performance. The target condition can not be done until the current condition is well understood, and should be guided by lean rules and principles.

Once the gap between the current and target conditions is well understood, the action plan can be developed. This is what belongs in the lower right quadrant. This may not be a highly detailed action plan, but key components, dates and responsible individuals. Also in this quadrant is your verification, meaning how you will know that your analysis and actions were successful. This should most



often take the form of the same metrics that were in the upper left quadrant and be presented in a visual format. Only when the actual results have been achieved should an A3 be finally finished; it should be considered a live, active and revisable document until that happens. By using the A3 in this way, it becomes a tool not just for report but for helping to structure the thinking process in a lean way and open the door for improved coaching and leadership during projects, problem solving and improvements.

#### *Variations on the Tool*

Lean A3s should use pencil whenever possible, but some companies have started to digitize their A3s and even have formatted on-line templates to walk through the process. If this is done, a few issues should be considered. The ability to capture and store massive amounts of information in digital format should not be leverage. Simple and short information is meant to be passed through the A3. Also, graphical representation of systems is often more difficult digitally or at least take more time to capture and format. Considerations should be made to encourage pictures. Last, it is easier to make exceptions such as using very small font sizes and cutting and pasting large paragraphs, and this should be standardized out of the process. In sum, first develop an understanding on the why, what and how of A3s before making the process digital.

#### *How Tool Relates to Rules and Principles*

As a report writing mechanism, A3s focus on **Systematic Waste Elimination**. The benefits here are achieved both because it is structured but also because it is simple. No one has to generate reams of information, develop non-value-added content or worry about formatting a presentation to the tiniest detail. The focus is instead on key information and a simple format that can be both written and reviewed quickly.

As a thinking tool, the A3s are an example of lean rule #1: **Structure Every Activity**. Because it structures the activity of thinking through an improvement, problem or project through a lean lens, it greatly enables sharing and participation across multiple individuals as well as reflective learning from one event to the next. Consistent use of A3s generates improvement in lean skill by making the process visible.

Lastly, if used properly, A3s encourage the principle of **Directly Observe Work as Activities, Connections and Flows**. If the current and target conditions are examined at a systems level, it forces the user to understand the underlying process or system deeper than they otherwise might.

## Single Point Lesson Expansion

The Lean Learning Center is excited to announce the first expansion of lean topics to our existing Single Point Lesson package. Single Point Lessons are a volume of one-page structured teaching tools. This new expansion represents a collection of 77 lean lessons, each addressing a lean principle, tool, or concept clearly and succinctly using our unique 4-question structure: (1) what is it? (2) why use it? (3) factors critical to success (4) how do you use it?

Each lesson is organized into one of four categories as follows: (1) Lean Rules

and Principles, addressing the bedrock beliefs and behaviors pivotal to lean, (2) Process Tools, addressing a variety of specific tools to improve process design and results, (3) Concepts, addressing a variety of lean ideas and strategies, and (4) Change Management and Improvement Tools, providing strategies for changing the cultural mindset and moving the lean transformation journey forward. This first expansion represents one new topic addition to the *Change Management* category and five new topic additions to the *Process Tools* category as follows:

The initial package includes a complete collection of printed Single Point Lessons as well as a USB drive with electronic versions of the lessons for immediate distribution throughout your organization. You can be assured that your collection of Single Point Lessons will always be up to date with the latest information as we continue to expand topics in the future. Single Point Lesson license holders will receive electronic versions of new topics for immediate integration into their existing collection.



SPL Topic	Overview Description
High Performance Work Teams	This change management strategy maximizes the performance of a team by using five criteria to align individual efforts, build a cohesive group working toward a common goal, and produce results greater than those that could be accomplished individually.
Fishbone Diagram	This process tool presents how to use a simple problem-solving tool to differentiate between symptoms of problems that often consume our attention, but add no value and the root cause of problems that produces the symptoms that we see. By isolating and addressing the root cause, we can add value by ensuring that it does not reappear in the future.
Team Huddle	This process tool presents how to improve operational performance using a simple, structured methodology that focuses on improving the communication flow and soliciting improvement ideas through brainstorming.
Lot Forming Kanban	This process tool balances and improves flow by visually communicating production needs and improving responsiveness to those needs.
Operations Performance Report	This process tool tracks key performance indicators for a process or area, enabling consistent communication of operational performance and identification of improvement opportunities.
Changeover Wheel	This process tool visually communicates the prioritization schedule for product changeover; thus, aligning individual efforts, minimizing changeover time and maximizing value-added activities.

**FOR MORE  
INFORMATION ON  
SINGLE POINT  
LESSONS PLEASE  
CONTACT US AT  
INFO@LEANLEARNING  
CENTER.COM OR AT  
(248) 478-1480**

## Lean Learning Center

40028 Grand River Avenue  
Suite 300  
Novi, Michigan 48375

Phone: 248-478-1480  
Fax: 248-478-1589

Email: [info@leanlearningcenter.com](mailto:info@leanlearningcenter.com)



**For more visit**  
[www.leanlearningcenter.com](http://www.leanlearningcenter.com)

The Lean Learning Center was founded in 2001 by manufacturing and consulting industry veterans Andy Carlino, Jamie Flinchbaugh and Dennis Pawley to address the gaps and barriers that are holding back companies from successful lean transformation. In addition to the advanced curriculum, the Center has developed a learning environment designed specifically for adult learning, utilizing techniques that include discovery simulations, case studies, personal planning and journaling. Together, with affiliate Achievement Dynamics, founded by Andy Carlino in 1991, the companies offer a complete array of lean transformation services.

## Lean Learning Center Announcements

### LEAN VALUE STREAM IMPROVEMENT

November 9, 2009

### LEAN EXPERIENCE

August 3, 2009

September 21, 2009

November 2, 2009

December 14, 2009

### LEADING LEAN

November 11, 2009

### LEAN KAIZEN BOOT CAMP

September 28, 2009



*For more information visit:*

[www.hitchhikersguidetolean.com](http://www.hitchhikersguidetolean.com)

