

ARCHIVE

- ▶ 2020
- ▶ 2019
- ▶ 2018
 - February
- ▶ 2017
- ▶ 2016
- ▶ 2015
- ▶ 2014
- ▶ 2013
- ▶ 2012
- ▶ 2011
- ▶ 2010
- ▶ 2009
- ▶ 2008
- ▶ 2007
- ▶ 2006
- ▶ 2005
- ▶ 2004
- ▶ 2003

[Quality Progress](#) / [2018 February](#)

[« back](#)

SIX SIGMA SOLUTIONS

Break From Routine

Rethinking what organizations must get from training their employees

by Mike Carnell

In early 1995, I was asked to be part of a group tasked with teaching Allied Signal employees how to do Six Sigma. I had no idea what that meant, and even less an idea of how to actually do it.

At Motorola, we had lived the 40 hours of training per employee per year for every employee. It was a good thing, and the organization felt it was getting a strong return on investment for its training dollars.

Being clueless, we dove into writing material and teaching classes. We all had been through many quality and statistics classes, so we understood that the conventional instructor-led lecture classes wouldn't deliver the results the customer was looking for. The customer wanted measurable operational results.

We eventually discovered Bloom's taxonomy. We now understood the progression from knowledge to comprehension to application. Only by getting people to the application level were we going to deliver quantifiable business results.

The importance of application

Why does getting to application make a difference? Two reasons. The first is simply that there is no business value until you apply something. This is business. If it cannot be cost justified, it will eventually die an ugly death.

The second reason is that training can create change. Training that is comprehended at the application level creates sustainable change. We have heard management talk ad nauseam about sustainability. It begins with training. By definition, training creates change. If nobody really understands it, it won't change anything.

Thus began my exposure to the differences between active and passive learning. Active learning is where students are engaged in the learning process. Statapults—a hands-on training tool for teaching statistical techniques such as design of experiments (DoE) and Six Sigma tools—could be considered active learning. It creates more understanding of DoE, for instance, but actually running a DoE creates another entire level of understanding.

In today's business environment, we have moved to generative learning in which we now understand the importance of building on the knowledge we already have rather than creating new knowledge. That is generally the point of training done in the workplace: It is a building process to create a culture that can generate new ideas. Sustainability, innovation and training are all tied together. Who would have guessed?

When we considered active learning and Bloom's taxonomy, we realized that those classroom exercises were only moving people from the level of knowledge to comprehension. They weren't getting people to application. We understood that actual projects with mentoring was the way to deliver results that customers wanted. We have been delivering site support with projects to achieve that result.

Moving toward comprehension

[Sign Up for Newsletters](#)

AVERAGE RATING



Out of 2 Ratings
[Rate this article](#)

[Add Comments](#)

[View comments](#)
[Comments FAQ](#)

[Share](#)

[Print](#)

[Save](#)

[PDF](#)

Featured advertisers



**SIGMAXL
V8**

INCLUDES ALL
THE TOOLS AND
TEMPLATES
NEEDED FOR LEAN
SIX SIGMA
AND PROCESS
IMPROVEMENT

GRAPHICAL &
STATISTICAL TOOLS,
PROCESS CAPABILITY,
MSA, SPC, DOE
AND MORE!

SigmaXL Inc.
brings you these
tools as
user friendly
Excel add-ins.

DOWNLOAD A
**30 DAY
FREE TRIAL**
at www.SIGMAXL.com

msmtq.com


**ST. CLOUD STATE
UNIVERSITY**
Plymouth

Unleash *Careers*

Online Courses

Learn New
Quality Tools

Earn
Masters Degree

[Learn More ▶](#)

Last year, I had the pleasure of working with David Terry. After 19 years of working with Japanese manufacturers, he had an amazing grasp of the Japanese view of manufacturing. I asked him if he considered himself a lean or Toyota Production System (TPS) practitioner. He seemed a little taken aback by the question and said he just considered himself someone with common sense. When someone avoids trendy labels, you know there is substance to this person.

Over time, we discussed various tools and techniques we had used over the years. Terry told me about a time he was sent to a plant for some work. This was his version of one learning experience he had (names have been modified to protect identities):

"When I arrived at the plant, I was expecting to join the Toyota A group with its activity. Toyota A group is Toyota's training program to develop a person's TPS skills by doing joint activities with suppliers. When I reviewed the group's progress, I was confused about why some basic studies had not been completed. After I questioned its approach, I was told that this group was in the beginning stage, and I needed to do my own activity. I asked which area I should concentrate on and was told the specific plant. In other words, 'Find the answer yourself.'

From there, I started with a material information and flowchart (MIFC). I chose the MIFC to find the largest stagnation point (inventory built up) because I felt that would be where I should do my activity. I had to report out to our top assets protection specialist (and TPS) manager. I knew with the MIFC, I would be able to explain why I chose my area and activity. After I reported my findings with the chart, my mentor asked me to explain the purpose of the MIFC. I knew this answer, and answered proudly that the purpose was to identify stagnation and *kaizen* points. He asked again what the purpose of MIFC was. As I looked at him confused, he said to explain it to him the next day.

All evening, I thought about his question, and the same answer that I told him kept coming back. Maybe I wasn't clear with my first answer and he didn't understand what I was saying. The next day, I went back to offer the same answer, but using different words. Again, he said to tell him the next day what the purpose of the MIFC was. Now I was really confused because I knew he understood what I was explaining, but there was still something I didn't understand.

The next day, he stopped me and asked again whether I knew the purpose. When I gave him a confused look, he said the purpose of the MIFC was to understand whether work is easy for the operators. This purpose causes you to think about every detail about the current situation, the idea and the target. All material moves at some time, and someone must move it. Before that material moves, that someone had to receive information to move it. Is all this easy for the operators? That is the true *kaizen* point.

He said he understood my thinking about finding the stagnation points, but he wanted me to think about the struggles the operators have when those stagnation points occur. That's when we must do *kaizen* to eliminate it. My mentor would always say "Think deeply, David-san." That's why when I hear someone say that a value stream map is the same as an MIFC, I must disagree."

I thought this was an amazing story, describing Terry's patience with the mentoring process and Terry's mentor's patience with the teaching process. Western society has shaped many of us to typically jump to the "cultural difference" explanation when there's confusion or misunderstanding, but that doesn't work. Terry is from the United States, and I have met others trained in a similar manner who have transcended the mediocre level of understanding—that most people exist on—to a more intuitive level of operation.

Ineffective training

Consider how we deal with training in most of the world. We form classes, tell people about it, and hire a person to come and teach the material. This is what my "train the trainer" instructor referred to as the "Give, tell, dump and shove it to them" training. In other words, the structure is passive training that gets people to the knowledge level of Bloom's taxonomy. With some class exercises, maybe people get to the comprehension level.

Then there's the constant cry from the class: "We need case studies or we can't understand." So there is a case study that helps a portion of the class understand things a bit more. But then another smaller group in the class cries: "We need a

case study that specifically describes what we do or we won't understand it. Maybe it just doesn't work for us."

This is passive learning elevated to the level of sloth learning. When the class is complete, everyone does a smiles test to assure the instructor was entertaining enough. We return to our jobs and, because we have now completed a superficial level of training, we do nothing different.

Our organizations spend billions of dollars on training every year. What they really want is application-level training. They want the David Terry result. They need people understanding at an intuitive level and trained so they have the confidence and capability to execute what they have learned.

People who couple together the ideas they have learned in training with the things they already know and understand are the ones that create innovation. Innovation doesn't come from some slick packaged tool. It comes from people's brains. This will change an organization.

What we buy is fast-food training—in other words, the lowest price and fast. We want the lunch special while we watch "The Andy Griffith Show" reruns. You want experienced instructors? They want too much money, and really, this training is a commodity. You want to do a project? Forget it. It costs too much and is too slow. Butts in the chairs and sign the form so we know you attended. Here is your certificate. Thanks for stopping.

In the late 1990s we were perfectly positioned to see that tsunami-like wave to get Six Sigma training. After it became known that General Electric and Jack Welch were doing it, it got crazy. There were many leadership teams that just wanted to get Six Sigma trained and take the bump in stock price that Wall Street was handing out as a short-term reward if you emulated Jack Welch.

What organizations should have been doing is the same type of due diligence that should accompany the purchase of any type of training. Ask questions such as:

- ▶ Why does the business need it?
- ▶ What future state do we want to accomplish?
- ▶ What do we do to accomplish that?

In other words, basic planning questions are a part of any well-executed plan. Take the entire planning process through the stages of purpose, purchase, execution, implementation and sustainment, which is very much the same as define, measure, analyze, improve and control if you understand it as a thought process rather than a set of tools and toll gates.

The power to change

W. Edwards Deming once said our schools were part of the problem and don't always deliver the skills that industry needed. We pay billions of dollars every year to perpetuate that same issue at an organization level when we really have the power to change it.

Don't blame the universities. They are academics not always in sync with today's business needs. Demand your training classes are effective and not full of pointless cases that truncate the learning experience. Contractually demand the trainers deliver results. Don't let them send a trainer who may be entertaining but hasn't done anything in his or her career. Achieve quantifiable results and make the trainers prove it.

If those were your dollars being spent on training, you would certainly demand it. When you walk into that room, be prepared to work at learning. Walk out prepared to make more of a difference than updating your résumé or curriculum vitae, or hanging another certificate on an ego wall.

Mike Carnell is president and CEO of CS International in New Braunfels, TX. He earned a bachelor's degree in business administration from Arizona State University in Tempe. Carnell is a member of ASQ.

[Comments FAQ](#)



Excellent article and right on point! Great insight to the training process.

--Carlos B, 06-05-2018



Excellent article worthy of a lot of reads!

Thanks!

--Aaron H, 02-27-2018

