Did You Know that the Brain Cannot Refuse a Question?

Using Brain Science to Make Your
Lean EHS Program Smarter
Kathy J. Malone, CHMM

Who am I? I have always been involved IN the work, not just watching it from the outside.

I'm an Environmental Engineer with a Bachelor's in Interdisciplinary Engineering from Purdue, and 2 years of Master's work in Chemical Engineering, also at Purdue.

After several years "learning the trade" in a mile square auto plant (we cast engines at one end and drove cars off the assembly line at the other end and did everything in between), I started an Environmental Consulting firm, ManGuard Systems, Inc.. I started out writing Spill Prevention plans, then added Waste Management Plans as those regulations came out, then added Chemical Management when the OSHA MSDS regulations came out, and eventually integrated it all end to end.

We eventually added Environmental Software to what we did, because it was a tool we needed to do the job. Being neither real consultants nor real computer people, our goal was always for the software to do as much as possible with as little work on the part of the user as possible. During that time, I always had at least one client where I did the work I was asking them to do, using our software the way I was asking them to. Kept us honest.

I have run my own consulting company for 37 years, originally 2 of us, eventually got to 6 people, it has been just me for many years now, which I greatly enjoy since it gives me much more flexibility in choosing my projects. When it was 2 of us and an Admin we did an Environmental Software project for Big 3 Automotive, since our software was in use in 8 of the largest plants.

Also having had my own horse farm for 27 years now, where we went from 2 people full time to 1 person 1 hour per day (and happier and healthier horses), I continue to be passionate about helping people do more with less work. Kim Cardeccia of Hidden Promise LLC now runs her mental health counseling and life coaching practice out of the farm, which has gotten me exploring the Culture of suceessful businesses.

What are the Specific Learner Objectives for this session?

At the end of this session, attendees will:

- Understand the difference between Innovation (big change) and Kaizen (good micro change) from a brain science perspective
- Have explored how to use this to improve their Lean EHS programs
- Have explored how to implement this day to day to improve the engagement of their teams
- Have explored how to have team members feel that their suggestions have been heard and considered

Who are you?
Introductions (if time allows)

- Name, Company, Job description
- What do you most hope to get out of this session?
- What are your biggest lean challenges at the moment?
- What is your favorite example of kaizen (good micro change)

Who am I? Kathy J. Malone, CHMM
kathyjmalone@gmail.com

- Purdue Environmental Engr, Chem Engr
- 40 years experience
- Automotive, Aerospace
- ERP integration of Chemical approval through waste management with Safety in between
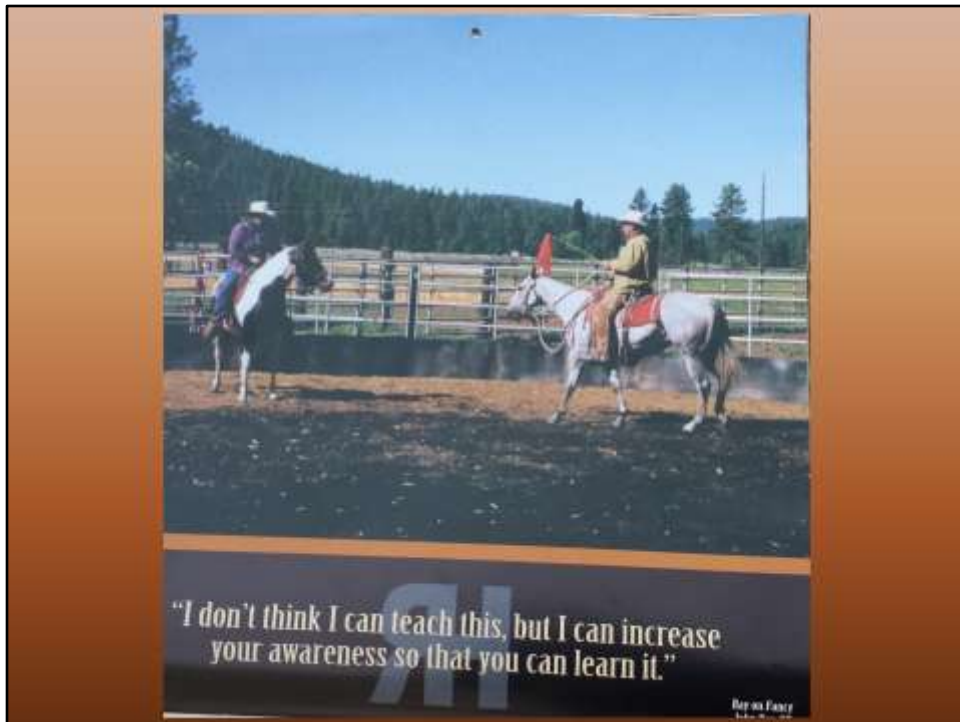- Lean at a Horse Farm

We hold 4 hour workshops at the horse farm around the topics "What Can You Learn About Lean at a Horse Farm" and "What Can You Learn About Running a Great Company at a Horse Farm" that include the following topics:

•What can you learn from the horses about the "Cardboard Ceiling" and how to tap into your Company's Subconscious by Engaging those below it?
•What can you learn about Leadership from Mama Bear and her lieutenants?
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•What can you learn about Continuous Improvement and Questioning at a Horse Farm?
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Other topics are available upon request. Content can be customized at consulting rates On-site consulting and executive keynotes are also available.

4 people maximum, no horse experience required. Workshops run from sometime in the spring until the week before firearm deer season starts in the fall.

For more info, contact me at 810-515-0115 or email manguardehs@gmail.com

"I don't think I can teach this, but I can increase your awareness so that you can learn it."

A friend said Tom Dorrance once said "If you think I'm going to teach you anything at this clinic, you can just load up your horse and go home now".

After much consternation, he explained that it was up to you to learn what he presented.

Figure 2a   Figure 2b   Figure 2c

I start every presentation with 3 minutes for Safety.

Safestart, a Canadian company that consults in safety, has this "Cliff Notes" way of describing risk factors for safety and how to mitigate them, which you will see goes back to building safety habits.

I call this 4x3+1 for safety, and present it as a 3 minute opener for every training program I conduct.

4 things that make it more likely that a Near Miss (rebranded Good Catch) will become an incident: Rushing , Frustration, Fatigue (back to that again), and Complacency.

Next to the word Complacency they say "write the word "kills", and show a short video clip of a person working the cash register in a party store getting ready to step back into the open trap door where they stored liquor in the basement. "You think she didn't know about it?" She was the owner of 18 years".

4 more things that make an incident more likely: Eyes not on task (can you say "cell phone), Mind not on task, Line of fire (getting in the), Balance/traction/grip

To fix it, 1. Call it on yourself, 2. Analyze near misses, 3. Look at unsafe behaviors around you, and 4. Work on your habits.

What is the difference between Innovation (big change) and Kaizen (good micro change)?

- Big change (innovation) sets off the brain's amygdala and shuts down creativity?
- Good micro-change (kaizen) engages the brain's love of a puzzle?
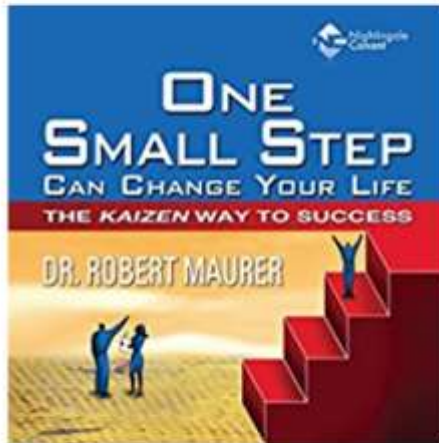
Dr. Rob Maurer's original version of this book is in audio format, since it is recordings of his presentations at Canyon Ranch. I highly recommend the audio version since you are likely to get more of the richness of his presentation.

There are 2 models for change, Innovation (with a big I) and Kaizen (good micro-change). Humans are neurologically hard wired to resist big change . The brain's amygdala instinctively responds to too big a change with fear and a shut-down of creativity,

Kaizen in the "Lean" world (think Toyota Production System or Rosie the Riveter and the Training Within Industry program during WWII), or good micro-change, flies under the amygdala's radar screen.

Furthermore, the brain cannot refuse a question. Repeatedly asking questions like "what is the smallest change I could make to make this job or process safer or to error-proof it" cause the subconscious to pay attention to the question and to start creatively "playing the game "to come up with answers.

You don't even need to try to come up with answers, the brain will surface them (why we get some of our best ideas in the shower).

Examples of how small the changes can be and how big the results are huge here!

Did you know you don't need to come up with an answer to your question?

- Lob it into your subconscious, which will figure it out.
- If you keep asking the question, your subconscious brain figures it is important, starts working on it

"Why is it I always get my best ideas while shaving?"
- Albert Einstein
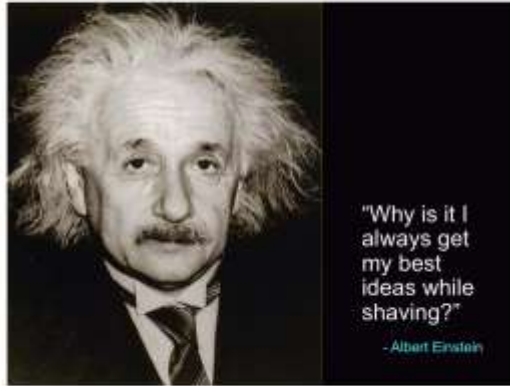
Depending on the source, 70+ percent to 90+ percent of "thinking" is managed by the subconscious

Speed of processing: Varies, but the extremes say that the thinking brain processes as few as 40 characters per second while the subconscious brain processes up to to 20 million bits per second

"What new ideas do you have for me today, brain?"

Tom Dorrance "A guy has a lot of time to think if he drives from Montana to California with the radio off"

Did You Know that in Times of Stress, Your Thinking Brain Goes Off-line?

- And that that is good?
- It lets you take advantage of the faster processing speed of the subconscious
- Let's you "hack" Anders Ericksen's 10,000 hours of mindful practice
- Why good safety needs to be a habit (HRO's)

- When you don't get to practice before the event

THE RISE OF SUPERMAN

DECODING THE SCIENCE OF ULTIMATE HUMAN PERFORMANCE

Steven Kotler
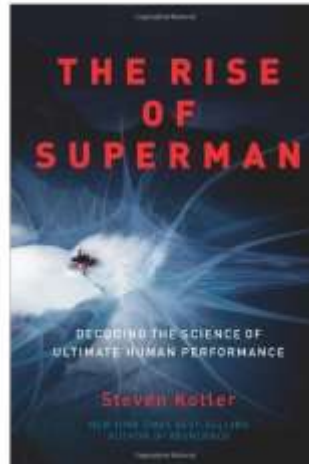
You may have heard of Anders Ericksen's "10,000 hours of mindful practice to achieve excellence."

In The Rise of Superman, we get the brain neurology of excellence outside of previous experiences. The first example contrasts the Olympic gymnast who lands the vault on her bad ankle to win the gold medal for the American team. "She had made that vault 1000 times before".

Contrast that with Danny Wei, who goes to skateboard the Great Wall of China on a half million dollar mega-ramp that a sponsor built. On the first practice run, they discover that the measurements were wrong and Danny crashes, damaging both his knee and ankle. They rebuild the ramp to the correct specifications, he walks the 5 flights of stairs up to the top, and he nails the jump. And then does it a few more times, because how many times do you get a half million dollar mega-ramp?

We used to think that excellence was when your thinking brain (pre-frontal cortex) got smarter. Turns out in times of stress, the pre-frontal cortex of the brain goes off-line, deferring to the subconscious.. And this is a good thing, because the thinking brain only processed thousands of bits per second while the unconscious processes millions.

Back to the need to build safety as a habit.

"CONFIDENCE IS KNOWING YOU ARE PREPARED FOR THE UNTHINKABLE."

"He might not have meant to hurt you, but it would probably hurt just as much as if he had meant to" Ray Hunt

Did You Know that Planning Failure Modes Can Help You Succeed?

- 5 traits of HRO's
- Prevention
  - Preoccupation with Failure
  - Reluctance to Simplify
  - Sensitivity to Operations
- Mitigation
  - Commitment to Resilience
  - Defer to Expertise
- "Managing the Unexpected" book

A good model for protecting your organization and your workers against the negative effects of fatigue and other cognitive impairments is that used by High Reliability Organization s (HRO's).

Think aircraft carriers, firefighters, nuclear power plants, etc. Examples of both successes and breakdowns in managing HRO's are featured in the book.

HRO's have 3 traits that differentiate them from less "mindful" organizations. 3 are preventative and 2 are for mitigation.

With respect to preventing unwanted outcomes, HRO's pay disproportionate attention to all of the potential failure modes they can think of, plan for them, and watch for weak signals that indicate that one is developing.

HRO's are unwilling to simplify, since easy categorization can cause a corresponding dismissal of the significance of events that may be shaping up in ways that can result in big impact. And they pay attention to the details of operations that influence how the first 2 factors impact operations.

Once an event has occurred, HRO's are relentless on building resilience into response systems so that the situation can be returned to as close to its pre-incident state, and they defer to expertise rather than hierarchy.

"What could go wrong in this process and how could we prevent that?"

Also, "If it goes wrong, how can we respond to minimize the impact"

Did you know there's another resource about questioning?

- Explores the progression from Why to What If to How
- Gives you examples and exercises to help you increase your creativity with better questioning
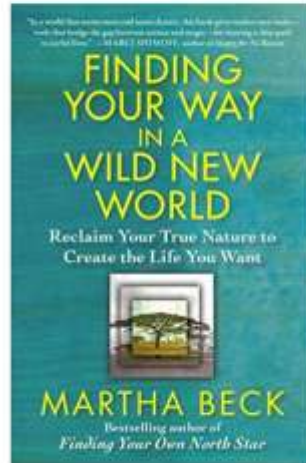
"The word
can't is not
in my
dictionary."

Ray on Judy Gee
Heber City, UT
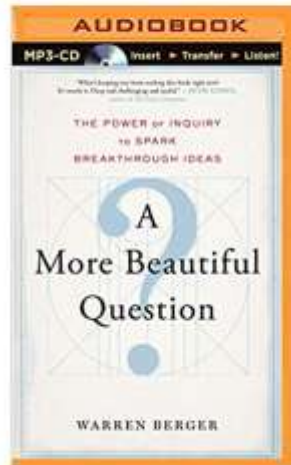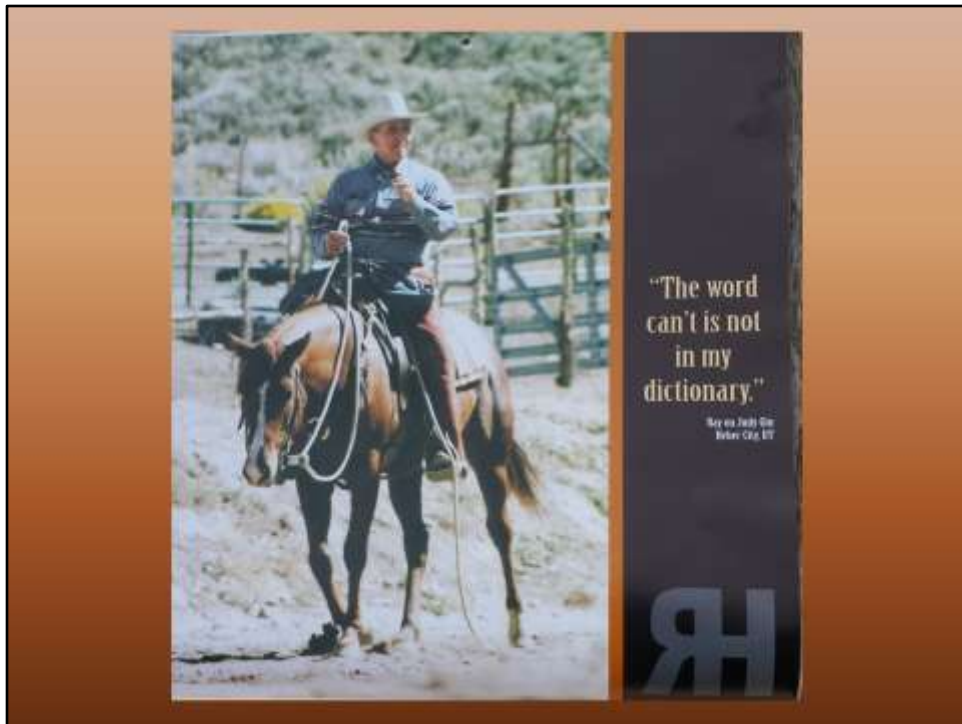
"I have not yet been able to"

By "brackets up", Martha Beck refers to suspending your disbelief in things we can't explain, at one point using "the M word", or magic to describe some of them.

She also talks about how Arthur C. Clarke, the sci-fi author, is quoted as saying "any sufficiently developed technology appears to be magic". Can you say cell phones?

(Brackets up, please) Have you ever thought of Ideas as Things?

- Ideas as "things" looking for a person to bring them to life
- Does anyone have any fear challenges?
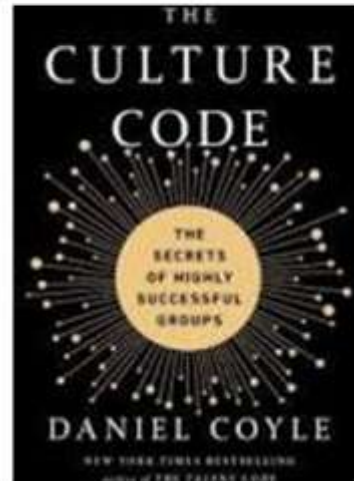- You have to leave time for the "pause"

In Big Magic, Elizabeth Gilbert of the best-seller Eat, Pray, Love puts forth the intriguing idea of ideas being things, floating around in the universe looking for someone to bring them to life. She has a (brackets up, please) story about an idea for a particular book that jumped from her to a writer friend when she had been ignoring the book idea while going through some other life activities. This theory also explains why some inventions or concepts appear to be independently generated simultaneously by different people.

That idea got me even more focused on capturing my ideas on the half 3x5 cards as they occur to me, before they come in one ear, shoot through my head, and go out the other, as can happen. (A friend calls it Sometimers, which then turns into Old Timers, which I am trying to stave off as long as possible)

The book also (surprise, surprise, based on the title) addresses fear and overcoming it to unleash your creativity. In the Audible version, Chapter 1 ,25 minutes in, is her letter to Fear, which is classic and very helpful to any of your team tacking it.

How can I help my team members be more engaged?

- 3 kinds of companies, "Star", Professional, and Committed
- Committed out-performs the other 2
- 3 components of committed culture
  - Build safety
  - Share vulnerability
  - Establish purpose

THE
CULTURE
CODE

THE
SECRETS
OF HIGHLY
SUCCESSFUL
GROUPS

DANIEL COYLE

NEW YORK TIMES BESTSELLING
author of THE TALENT CODE

By the same author as The Talent Code, this new book goes into depth about how to build a business with a culture of empowerment.

It includes case studies of both the excellent and the dismal, and contrasts the differences between the two

What does "Purpose" have to do with Lean?

- Jim Womack opens Gemba Walks with talking about putting Purpose in front of the "nuts and bolts" of lean
- One of the my favorite resources for Practical Lean

JIM WOMACK
GEMBA WALKS
EXPANDED 2nd EDITION

FOREWORD BY JOHN SHOOK
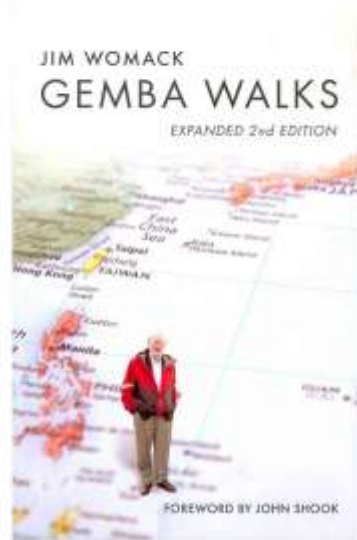
Ties into the "clear purpose" in the Culture Code book

"WHAT YOU NEED TO KNOW FIRST
IS THE LAST THING YOU LEARN."

Think anybody ever walks onto the job unsure of what to do but doesn't want you to think they don't know?

Think anybody ever walks onto the job thinking they know how to do that job but the way you do it is different?

4 Levels of Competence:
Unconsciously Incompetent
Consciously Incompentent
Consciously Competent
Unconsciously Competent
The best training for a job is done from the Consciously Competent standpoint.

Someone coming from a previous job can think they are Consciously or Unconsciously Competent but actually be Unconsciously Incompetent. This can be a huge safety risk factor.

How can you help your people learn what you are teaching?

- Did you know that:
- A pre-test improves learning even if people don't know the answers?
- "Interleaved learning" works better than silo'ed learning

NEW YORK TIMES BESTSELLER

Why Some Ideas Survive and Others Die

MADE to STICK

Chip Heath & Dan Heath

With ADDED MATERIAL (now extra sticky!)

This book was a wake-up call in terms of how to help people learn things (especially myself).

Reading it helps reinforce the idea of questioning to help with both comprehension and retention.

How can you help each person on your team learn what you are teaching?

- Compares Leading and Managing
- Chapter 1, great info on how to maintain a relationship (of any kind)
- Great managers customize their approach for each individual
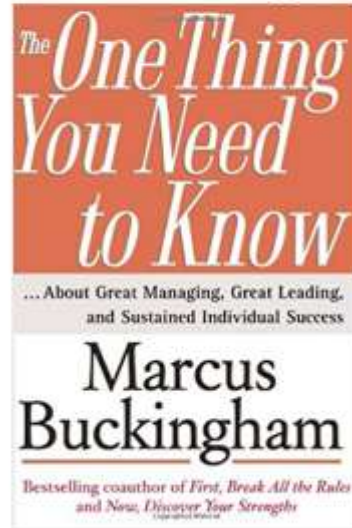
Marcus Buckingham is perhaps better known for his Strengthfinder work, but I found this book exceptionally helpful in defining how a good manager helped each individual team member excel in their own way.

BTW, while I usually love audiobooks, the information about building strong person to person relationships was not in the version of the audiobook I got.
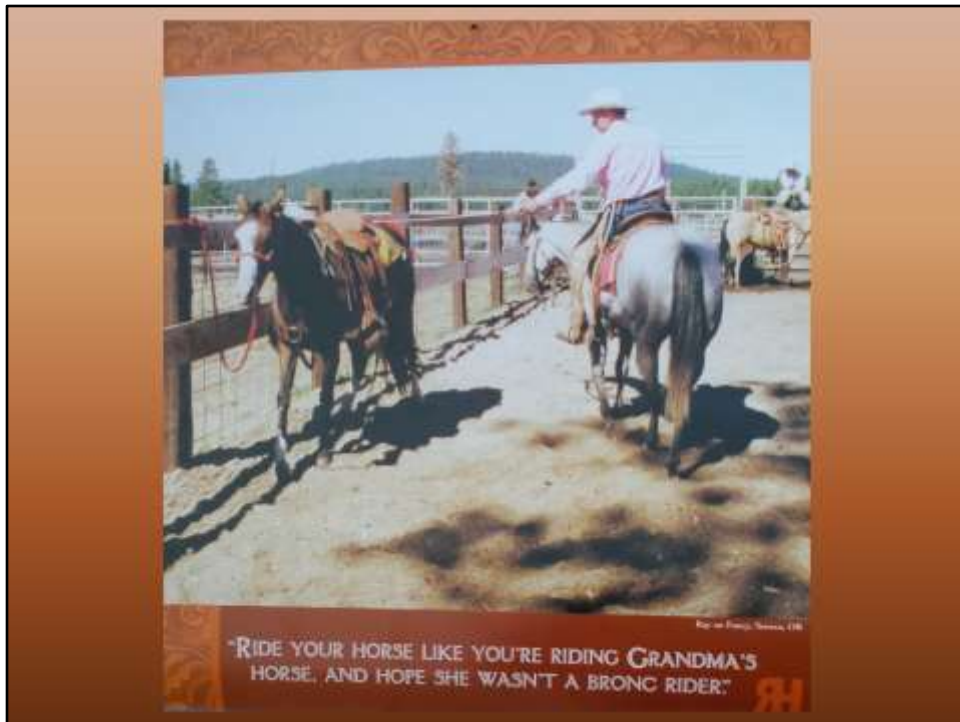
How can we incorporate some of these materials into our training?

Which of these materials resonate most with us?
What are we already doing well in this area?
Where can we improve?
How does this information change how you think about training?

"RIDE YOUR HORSE LIKE YOU'RE RIDING GRANDMA'S HORSE, AND HOPE SHE WASN'T A BRONC RIDER."

This is an especially fun picture for me because the person who helped with the clinic at which the cover picture for this calendar was taken (I helped with the Ray Hunt calendar for 3 years, gave me an excuse to delve even more deeply into his teachings) was a grandma and was a bronc rider when she was younger.

The relevance to brain science and making your program smarter is that Ray would also say "you have to start from where the horse is at" (not where you want him to be. Learning how to figure out where that place is and what approach will best help the learner is the difference between a good coach and a great one.

Another mentor described it "you treat them all the same, but you treat them all differently". Eventually I figured out that this meant that the standards were the same, but the approach for each peson was, well, personalized.

What's the Difference Between Error-Proofing and Mistake-Proofing?

- What can you learn about error-proofing by making coffee?
- Any time you say "be careful" you have a process with the opportunity to be improved

Error proofing: cannot be done wrong
Mistake proofing: making it more difficult to do it wrong
Definitely a topic open for discussion

I have heard it described as error proofing is when it can't be done wrong. Mistake proofing is when you implement controls to try to keep something from being done wrong.

Easy example, I don't want to disturb the meeting with my cell phone going off. If I leave it in my vehicle, I have error-proofed against that happening. To mistake proof it, I might remind myself to put it on silent, turn off all alarms, etc.

Any time you hear the words "be careful" or you say "you have to be careful about this", you are looking at a process that could be improved. A small question you could ask yourself is "how could I improve this so it is automatically safer?

SafeStart contends that the statement "be careful" is pretty useless culturally for safety, since it gives the hearer no help in understanding how to act more safely.

Exercise: What are some examples of error-proofing and mistake-proofing opportunities/examples?

Did You Know that Fatigue Can Be as Impairing as Drinking?

Fatigue is arguably worse than drinking on the job, or at least comparable.

https://www.osha.gov/SLTC/workerfatigue/hazards.html

The difference is that the effect of fatigue is cumulative, increasing the risk of injury as the number of days over which fatigue is accumulating increases.

This is especially true of fatigue induced by disruptions in people's circadian rhythms such as by night work and changing shifts.

And just as with alcoholic impairment, people are very poor judges of their degree of impairment.

Many good resources are on the OSHA website if you search for "fatigue"

"How could we improve our SOPs and other practices to compensate for fatigue and other cognitive impairments?"

Did You Know that According to Paul Akers, Money Kills Creativity?

- Setting the criteria for questions that the changes are free or cheap

  - Lowers the amygdala's perceived risk

  - Keeps it a game

- "2 Second Lean" by Paul A. Akers
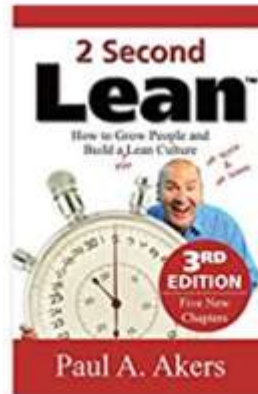
In his quick read, brash book 2 Second Lean, author Paul A. Akers contends that "Money kills creativity".

Just as too big a change sets off the amygdala's alarm system, having a lot of money to throw at a problem may have a similar effect because the risk of spending the money unsuccessfully in an attempt so solve a problem or improve things may trigger the amygdala's fear response. It makes the stakes too high

Research has shown that intrinsic rewards keep the brain engaged, creative and playful, while rewards, no matter how well meaning, typically cause the brain to be less creative and less effective at solving problems.

This can result in the other negative effect of having a lot of money to spend on the solution, the brain goes into "tunnel vision" thinking (we must spend money to solve the problem).

The average Toyota worker submits 100 to 600 suggestions for improvement per year, with an average of 90+ percent being adopted and an average award value of about $3. The average American auto worker submits 1-2 suggestions per year with an average value of $100+.

The lower award builds teamwork and is about recognition.

On all the previous questions, "That doesn't cost anything and requires no additional resources?"

(or only costs 2 cents or takes 2 seconds?)

The "No Idea Left Behind" Box and Your Lean Culture

The index card method to progressing in your Lean Journey

How can you make "error proof" making sure your team members feel heard?

You frequently hear team members say "I suggested that over and over again and no one listened" or "I suggested that and the idea just vanished, never to be heard from again".

Making sure that every idea gets heard and considered, and making sure that each suggester can see that this occurred, is essential to keeping team members engaged.

Dave Ramsey, author of EntreLeadership and many other best-sellers, says "You get one of those", referring to shooting down an employee's idea or not considering it. "They will never contribute again"

Building a process appropriate to your business where there is transparency that every idea is considered, evaluated, metrics put on, and prioritized, can go a long way toward convincing team members that their ideas matter and are respected and wanted. Because they do and they should be and they are.

"THE SLOWER YOU GO THE FASTER YOU'LL LEARN."
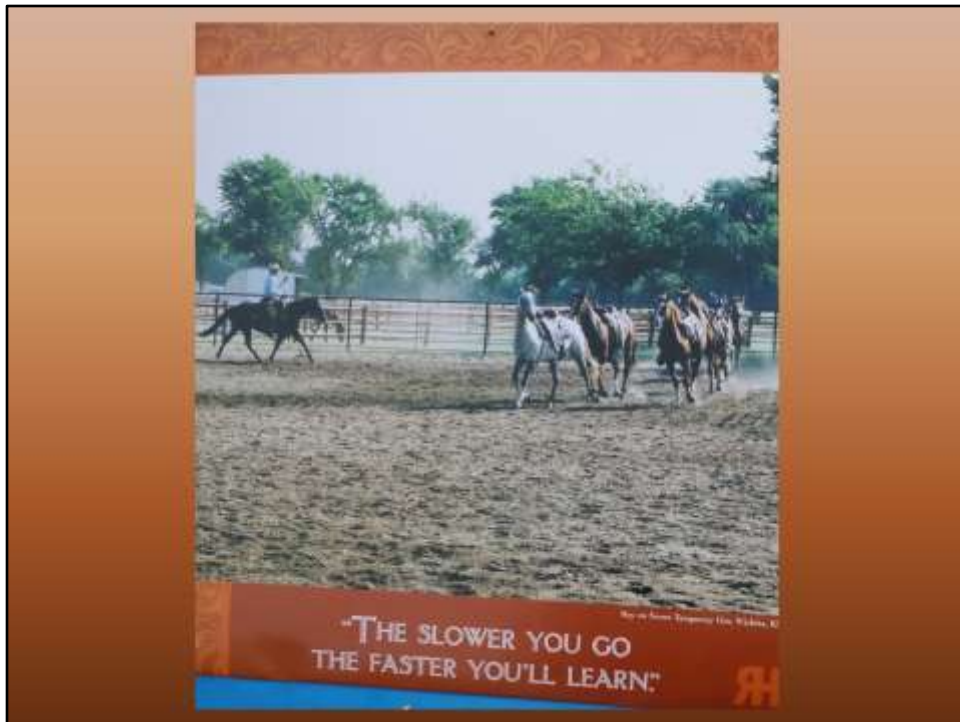
Changes in Lean are sometimes referred to as "Kata", referring to the ultra-slow motion repetition of a particular sequence of movements as a method of improvement.

In The Talent Code by Daniel Coyle, a study of the neurology of building habits centered around disproportionate centers of excellence, one example of this is a music school where they practice the music so slowly that "if you can tell what the musical score is, they are playing it too rapidly".

With the horses, until the horse can perform a maneuver or movement properly slowly, speeding it up will only cause it to both be done more poorly, and will cause the horse to not learn the components of having the movement be done properly.

Contrast this with the need "in the real world" to do things at a particular speed (the assembly line, for example.)

Balancing the need for speed with the need for the job to be done right is a continuous tension.

Reflections

- What is the most useful thing you are taking back from this workshop?
- What was the most surprising thing you learned?
- How has your questioning process changed as a result of this material?
- What is your next action step?

(Group share)

Thank you for your interest in this topic!

Please send me your error-proofing and mistake-proofing examples and stories, I would love to hear them.

If you would like help setting up processes or training your employees or management in a number of "Lean in the Real World" safety topics, please reach out to me.

Kathy Malone, CHMM

About me: 37+ years, Purdue environmental engineer Automotive, Aerospace, Hazardous Waste Transfer Facilities, now food-related manufacturing and service as well.

Interesting projects: end to end integration from chemical request, through receipt into EHS inventory for regulatory and other reporting, integrated through to waste disposal, integration of safety all the way through. Templatizing of Chemical Safe Use Instruction, equipment Safe Operationg Procedures, and Job Hazard Assessments.

Error-proofing and mistake-proofing of environmental, health and safety activities.

"ADJUST TO FIT A SITUATION."
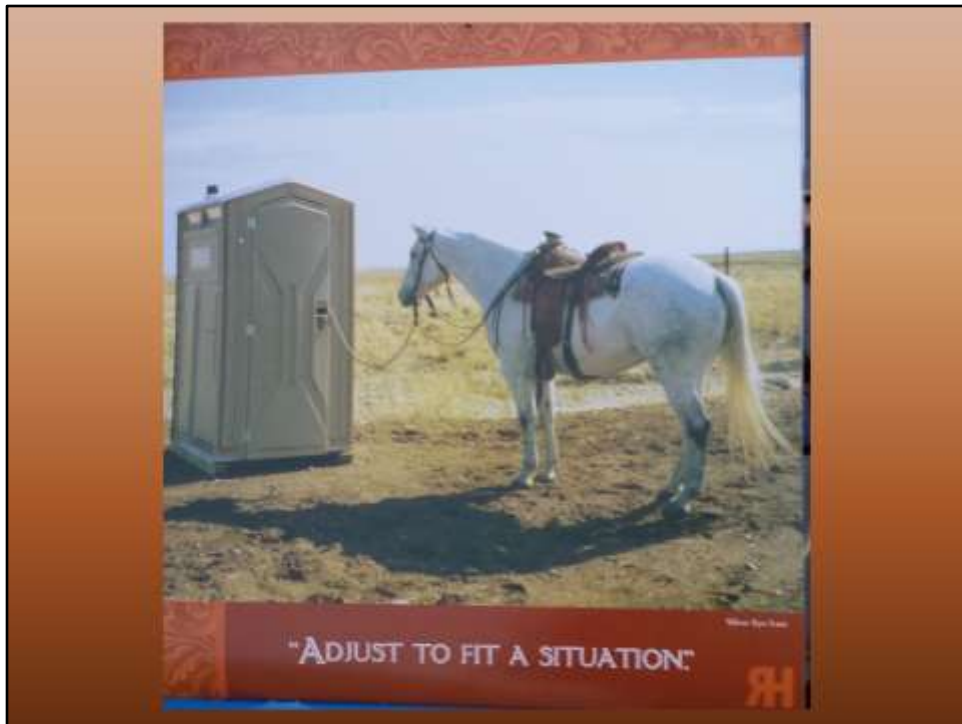
A key thing about Lean and Continuous Improvement is the flexibility to change as the situation changes.

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kathyjmalone@gmail.com

- Purdue Environmental Engr, Chem Engr
- 40 years experience
- Automotive, Aerospace
- ERP integration of Chemical approval through waste management with Safety in between
- Lean at a Horse Farm

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More Resources

Books that you might find useful

Other books that we either talked about or that you might find useful in the context of Lean

What Questions Can You Ask and Have Your Workers Ask?

- What's the smallest change/one small change I could make to:
  - Improve safety?
  - Error-proof the process?
- What could go wrong unexpectedly with this process?
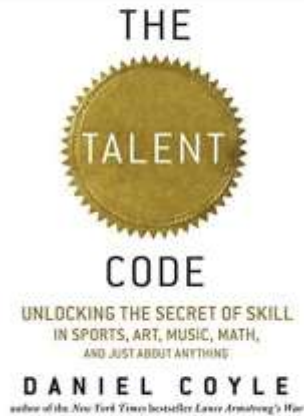 - How could we prevent it?
  - How would we mitigate?
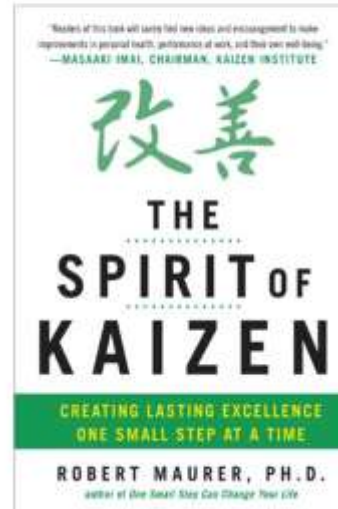
The Spirit of Kaizen is the business version of the One Small Step Can Change Your Life book.

Back to the HRO (High Reliability Organization) topic, since a big theme of this talk will be the importance of training your mind and the minds of your team to inculcate safe behaviors and thinking processes, HRO's additionally ask their brains the question "what could go wrong with this process that we haven't anticipated yet? And if that happened, how could we respond to minimize and to mitigate the effect?"

Did You Know that most of the time we train for failure instead of success?

- Talent Code: Studying disproportionate centers of excellence

- Neurologically, how habits are built, and how to build the right ones

- The wrong ones atrophy, they don't go away

THE
TALENT
CODE
UNLOCKING THE SECRET OF SKILL
IN SPORTS, ART, MUSIC, MATH,
AND JUST ABOUT ANYTHING
DANIEL COYLE
author of the New York Times bestseller Lance Armstrong's War

When you first start on a behavior, you have to think about it, then it becomes a habit, then a reflex.

The Talent Code goes into the neurology of disproportionate excellence, no matter what the skill, whether piano playing or safety.

When I was learning to rope, the cowboy teaching us had already figured this out (probably without reading the book). "When you get a good throw, stop, savor the muscle memory, then go do something else."

"Most people train to failure." he then said,. "When they get a good throw, they try it again. The next try is not as good. They keep trying as it gets worse until they quit frustrated."

Turns out quitting on a good note myelinates the neural circuit of success, versus myelinating the unsuccessful circuit. Myelin is the insulation on nerves, the more myelination the faster and more reliable the circuit. Disused circuits gradually de-myelinate but don't actually go away.

The book covers individual as well as how to coach and build a culture for excellence.

Safety needs to be at the habit level at least, if not the reflex level.

What's a good "Recipe" for On-shift Training?

On-Shift Training Steps "Recipe":
- Prepare
- Show
- Tell
- Do
- Review

Balancing the components of speed and excellence is the reason the On-Shift Training "Recipe" is the way it is:

• Prepare the materials you will need for training
• Show the trainee, at speed, what the job will look like when they are fully up to speed on the job. Otherwise, it has been found that employees sometimes think the slow speed of training is the acceptable final speed.
• Tell, walk the worker through the task with explanation
• Do, have the employee do the task, under supervision. Repeat as necessary
• Review, both immediately after initial training and on an ongoing basis

These steps or a similar set of steps are pretty typical of Lean training activities.

Where can I find out more about what Zingerman's has learned?

- Zingtrain.com, lower right, look for "free"

- Ari Weinzweig's books

The horse farm is in the new Beliefs book on Page 84 under the sidebar "Equine Belief Detectors"

The yellow book covers Ari's "12 Natural Laws of Business", and is a great starting point.

What does the You:I ratio have to do with getting your message across? (cross training)

Patricia Fripp (heard a CD of hers)

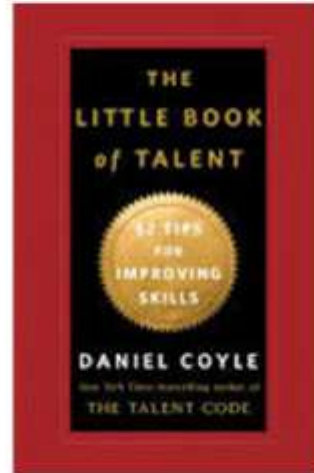- 6:1 You:I ratio (they care more about them than about you)

Really good presentations on how to sructure and give a presentation

(which I have not followed exactly in this presentation)

"Cheat Sheet" for Implementing The Talent Code

- 52 Tips for building disproportionate excellence

For a workbook of behaviors to practice to emulate the "centers of disproportionate excellence", this is a great reference.

Short tips with action items behind them

To be efficient, the brain "chunks" the steps together and stores the "chunk" as a unit.

This lets routine activities be conducted without the need for a lot of "cognitive awareness", which is energy intensive. The brain would rather save its cognitive awareness for when it is really needed, such as when things start to go wrong.

The key to having this be successful is to build more and more of the HRO "what if" questions into scenarios that the brain already has a trained answer and behavior for., and to have a trigger to identify when "none of the above" is the answer and customized response is needed, preferably with consultation with experts.

HRO's sensitivity to weak signals that the default answer stored in the subconscious is not unfolding true to pattern and that the situation needs cognitive awareness and a more thoughtful approach is what makes their processes so successful.

Smart checklists that indicate key points at which to ask "is this doing what I think it should be doing", SOPs that delineate what could go wrong, and what would indicate a new way of something going wrong that hasn't been planned for yet, are 2 ways to help error proof processes.

When you look for an organizational framework that supports employee engagement, Zingerman's is a great model. The Zingerman's Community of Businesses (ZCoB) went from a deli that everyone said would fail 35 years ago to 11 separate food related businesses, and $65 million in gross revenues, a $2 million a year business of which is ZingTrain, which trains how they have done it (go to www.zingtrain.com, lower right hand side is Free Stuff and Webinars where you can learn a lot).

The company is open book, so employees know that for every $1000 in work comp costs, at the typical 2% food-related profit margin, they need to sell $50,000 worth more Reubens to make that profit back. And since profit-sharing is transparent, they know that cost decreases the funds for profit sharing (they call it gain sharing).

The Business Perspective Chart shows the Zingerman's Experience around everything,. They Vision extensively, from the 15 year vision for the ZCoB as a whole (they're on their 3rd 15 year vision, the first one in which the original founders and managing partners are transitioning out), to Mail Order that does a daily vision. Have a problem? "Vision the solution then lets talk about it" might be what you hear.

Principles are what they do when it's difficult, systems are how they implement it all, culture is what they actually do, you try to have the gap be as close to 0 as possible. Which feeds their triple bottom line, great food, great service, great finance.

Did you know espresso making can help you improve error proofing/mistake proofing?

- Choose a process:
  - Espresso/coffee making
  - Traffic
  - Process of your choice

Espresso maker and SOP story.

3 levels of SOP
  First time, never seen the process before
  Index card reminders
  Visual checklist

I have been doing some work where I have been "shift hopping", sometimes going until 4 in the morning, sometimes trying to maintain a normal daytime schedule. I didn't think I was that tired or affected. ..

Remember how people who are cognitively impaired by fatigue are poor judges of the extent of their impairment.?

Then I started the espresso maker with everything done properly. Except that I didn't have a cup under the spout. Wish I had thought to take a picture of that actual mess, but you get the point.

Mistake proofing change to the order of the steps in the SOP: I don't put the coffee in the espresso maker basket until the cup is under the spout.

Another time, I turned it on with no water in it (no harm done, let it cool down). SOP change, add water before plugging it back in and turning it on.

Further improvements? Checklist laminated on the espresso maker? Takes my need for cognitive attention away, I can mindlessly follow the steps.

Or buy a coffee….error-proofed!

What % of the training compact is the Trainer's, what is Trainee's responsibility?

- Does someone want to try to explain this?

- How might you re-frame the "Trainer Agrees To: bullets to better engage the learner?"

"Responsibility goes in increments of 100%", otherwise it's always the other guy's fault that it didn't work, is why the Zingerman's Training Compact is stated the way it is.

Discussion about the "E" word, expectations

How about "Document clearly what the trainee should know at the end of this training"

How about "Let the trainee self-discover whether they have learned the materials" (fewer words, please)