

10<sup>th</sup> Annual National Defense Industrial Association

CMMI® Technology Conference and User Group

November 16, 2010

Denver, Colorado, USA

Track 1: CMMI and Process Improvement

Session 11315, Chasm Creek 2:15-3:00 pm

Best  
Presentation,  
Track 1



**WHAT DOESN'T KILL YOU MAKES YOU  
STRONGER:  
MY PROCESS  
IMPROVEMENT LESSONS  
LEARNED**

VERSION 1.0A (LARGE FORMAT) – 10/25/2010

Bill Smith, CEO

Leading Edge Process Consultants LLC

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



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# WHAT DOESN'T KILL YOU MAKES YOU STRONGER: MY PROCESS IMPROVEMENT LESSONS LEARNED

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No, that wasn't me.  
I have **0** tattoos...

*...that I'll admit to.*

# Introduction



# Introduction

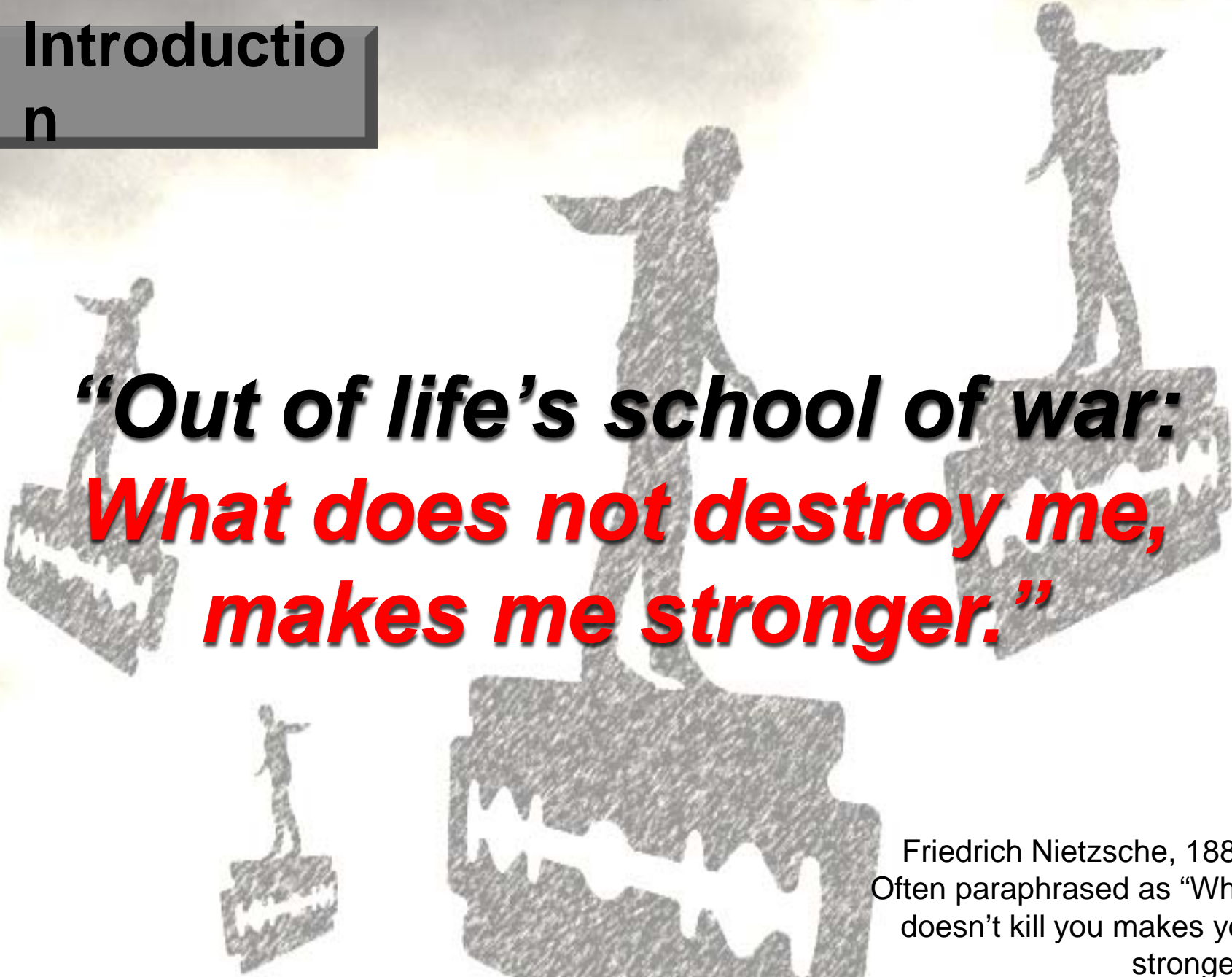
I've been  
involved in  
**improvement  
initiatives**  
dating all the  
way back to...

...when I  
used a  
**comb!**

# Introduction

One  
**theme**  
has  
emerged...

# Introduction

The background of the slide features several dark, grainy silhouettes of human figures standing on blocks of rubble or debris. The figures are in various poses, some with arms outstretched, suggesting a sense of triumph or resilience after destruction. The overall tone is somber yet hopeful, with a light, hazy background.

***“Out of life’s school of war:  
What does not destroy me,  
makes me stronger.”***

Friedrich Nietzsche, 1889.  
Often paraphrased as “What  
doesn’t kill you makes you  
stronger.”

# Introduction

Or  
to put a  
more **modern**,  
less depressing  
spin on it...



# Introduction

***“Next time you feel like  
It’s just one of those days  
When you just can’t seem to win  
If things don’t turn out the way you  
planned  
Figure something else out  
Don’t stay down, try again, yeah...”***

***Everybody makes mistakes,  
Everybody has those days...***

***Nobody’s perfect!”***

“Hannah Montana aka Miley Cyrus on the stage of Hannah Montana Tour,”  
Author: Mike Schmid from Hollywood CA. Photo in public domain, used here  
under the following license: <http://creativecommons.org/licenses/by-sa/2.0/>

**Hannah Montana**  
**“Nobody’s Perfect”**  
**2007**

So that you can avoid  
some of the mistakes  
I've **seen**  
and sometimes even  
**made...**

# Introduction

I submit to you my...

**Introduction**

# **Process Improvement Lessons Learned**

**TOP**



# Lesson 10

# Lesson 10

## Background

- *Organization:* ML 1, new to **measurement** except for the basics (e.g., cost)
- *Me:* Newly appointed PI consultant, in my first **SEPG meeting** w/ them...

### Events



SEPG member proposes 8 new measures...  
*for REQM!*



Everyone agrees, except one guy (a PM) saying  
“no way”



**Vote** called, measures “adopted”

### Results

- **Six months** planning / trying to collect the measures
- All but 2 are eventually **abandoned**
- **Frustration** among projects, **wasted time and money**

# Lesson 10



**Don't Ignore the Naysayers;**  
**They May Be Right**

See also: "Conflict  
jump-starts the  
creative process,"  
Ikujiro Nonaka

# Lesson 10

## Notes

*That project manager was the voice of reality!*

- ☐ Value alternative perspectives
- ☐ Don't "steamroll"; strive for *consensus*
- ☐ Satisfy the *WIFM* for key stakeholders ("What's In it For Me")

Don't Ignore the **Naysayers**;  
They May Be Right

See also: "Conflict jump-starts the creative process," Ikujiro Nonaka



# Lesson 9

# Lesson 9

## Background

- *Me*: Tech lead of an 8-person **software development** team
- *Team*: Recently started **code reviews**, everyone's OK with them except...

### Events



One guy takes them personally, always **pushing back** until 1 day...



He sits **quietly** through a review of his code... a good sign (?)




Immediately afterwards, he repeatedly pounds a **refrigerator** against the wall in frustration!

### Results

- Three weeks later, he **leaves the company...** on his own (presumably taking a job in an organization where **they don't do code reviews!**)

## Lesson 9

A silhouette of a person is captured mid-jump from a dark, jagged cliff on the left side of the frame. The person is falling towards the ocean below. The background is a dramatic sunset with a bright sun low on the horizon, casting a golden glow across the sky and reflecting on the water. The sky is filled with scattered clouds, some of which are illuminated by the low sun. The ocean surface is dark with some white foam from a splash visible near the base of the cliff. The overall mood is one of risk-taking and acceptance.

You May **Lose**  
**People...**  
and  
That's Okay



# Lesson 9

## You May Lose People... and That's Okay

### Notes

*Despite our best efforts, we lost a valuable employee; maybe we were all better off*

☐ Remember the WIFM (Lesson 10), be empathetic, and use every ounce of your people skills

☐ *But...* don't be too hard on yourself when someone just won't "get with the program"



# Lesson 8

# Lesson 8

## Background

- Organization: **Assorted** ones, with varying degrees of guilt
- Me: A (youthful) **software developer**

### Events



I'm told we have **processes**, and I'm handed some impressive **binders**



I put the binders on my bookshelf, intending to look at them **"when I have time"**



I keep doing what I was doing, the way I've **always** done it

### Results

- I'm **not trained** in the processes
- Nobody seems to **care** if I use them
- "Has anyone actually **tried** these?"
- My bookshelf **sags** under the weight of the binders
- **How much money was wasted here?**

# Lesson 8



**“And Then  
a Miracle  
Happens”...**

See also: “Train, train,  
train,” Watts Humphrey

**...Is Not a  
Deployment Plan**

# Lesson 8

## Notes

- ☐ Pilot!
- ☐ Train!
- ☐ Enforce! (Even better: *care!*)
- ☐ Consider projects' existing commitments
- ☐ Honor "legacy projects": Is business value enough to justify change?

**“And Then  
a Miracle  
Happens”...**

See also: “Train, train, train,” Watts Humphrey

**...Is Not a  
Deployment Plan**



# Lesson 7

# Lesson 7

## Background

- *Organization:* (The **less** said, the better)
- *Me:* (I plead “**the Fifth**”)

### Events



Organization believes they must be “**compliant**” – **now!** -- to compete



They develop & deploy **process descriptions** as fast as humanly possible



Eventually, leading up to an **appraisal**

### Results

- **Successful ML 3 Level rating!**
- Several months later, I hear from a POC that they’re **not doing that “CMMI® stuff”** anymore
- Back to **business as usual**  
(Until the next appraisal?)

# Lesson 7

## Process Improvement and Compliance Are Not Synonymous

See also: "Cynicism and dysfunction both begin when managers start saying one thing and thinking another," Roger Martin



## Lesson 7

# Process Improvement and Compliance Are Not Synonymous

### Notes

- ☐ Doing process improvement *fast* can equal doing it *wrong*
- ☐ Avoid “crappy” CMMI®-compliant processes
- ☐ Survival of the fittest: If your processes don’t make things better, cheaper, or faster... *they won’t (& shouldn’t) last*

See also: “Cynicism and dysfunction both begin when managers start saying one thing and thinking another,” Roger Martin



# Lesson 6

# Lesson 6

## Background

- Organization: **ML1**, striving for (and will eventually attain) ML 3
- Me: Their process improvement **consultant**

### Events



One PM has  
team  
meetings  
...**every**  
...**single**  
...**day!**



I suspect  
**overkill**, and  
I'm secretly  
glad I don't  
work for *that*  
guy



Gradually, I  
**learn** more...

### Results

- His project is the only 1 in the org to reliably deliver software **on-time**
- His customer & team **love** him
- He's using **Scrum**, an agile method
- Overkill? No. Potential **best practice**? Yes!

# Lesson 6



**Keep an  
Open  
Mind**

Keep an  
Open  
Mind

See also: "Keep an open  
mind and a level head,"  
Watts Humphrey

# Lesson 6



## Notes

- ☐ Realize you don't know everything
- ☐ Be aware that there are often *many* good ways to get something done
- ☐ Remember that the CMMI® is (largely) non-prescriptive

**Keep an  
Open  
Mind**

Keep an  
Open  
Mind

See also: "Keep an open mind and a level head,"  
Watts Humphrey



# Lesson 5

# Lesson 5

## Background

- *Team:* Three-person **IV&V** team, has been operating for about six weeks
- *Me:* Their new **team lead**

### Events



Team member has been working full-time on an “**IV&V database**”



But he **hasn't actually been doing IV&V**, & the database is constantly being **redesigned!**



I **pull the plug** on the database development

### Results

- We start **focusing on our job** – to do IV&V – instead of building a **money-sucking** software application
- We begin using a spreadsheet, which **suits us just fine** for the next year

# Lesson 5

## Walk Before You Run

See also: “Improvements  
should be made in small,  
tested steps,” Watts Humphrey



# Lesson 5

## Walk Before You Run

### Notes

*A database may have been fine... someday!*

- ☐ Test improvements incrementally, just like software
- ☐ Innovation rocks! But do it intelligently.

See also: "Improvements should be made in small, tested steps," Watts Humphrey



# Lesson 4

# Lesson 4

## Background

- *Organization:* Small consulting company, simply interested in **getting better**
- *Me:* **Quality Manager**, tasked to begin a PI effort with little funding

### Events



I form a  
**Process  
Group**



We spend  
weeks  
developing  
our “**process  
for developing  
a process**”



It's **great!**

### Results

- \$ pressures (“billability”) **torpedo** the effort
- Created assets that are super in theory, but **never actually help** the business
- **Time, money wasted**



# Lesson 4



Avoid a  
**One-Size-Fits-All**  
Improvement  
Approach

See also: “**You have choices in your improvement approach,**” Suzanne Garcia, Richard Turner



# Lesson 4

## Notes

*I was doing PI the way  
I'd seen it done in large  
corporations*

- ☐ Big company approaches may not work in small companies
- ☐ IDEAL<sup>SM</sup> may not always be ideal.

*Consider other  
approaches (e.g. DLI -  
Decision-Based Life  
Cycle for Improvement,  
CMMI<sup>®</sup> Survival Guide)*



**Avoid a  
One-Size-Fits-All  
Improvement  
Approach**

See also: **"You have choices in your improvement approach,"** Suzanne Garcia, Richard Turner



# Lesson 3

# Lesson 3

## Background

See also: Lesson 2

- *Organization:* Recently formed 80-person **software development** organization
- *Me:* Newly appointed **Quality Assurance Manager**

### Events



My QA team plans and begins a series of **audits**



**No projects** are following the organizational standard process!



We try to find out **"Why?"**

### Results

- Developers are *not* **undisciplined** or **lazy** or in **need of training**
- The organization's processes are (verifiably) **bad!**

# Lesson 3

**If People  
Aren't  
Following  
Your  
Process,  
Ask  
“Why?”**



See also: “To identify actions that address a defect or problem, you need to understand its root causes,” CMMI-DEV v1.2 (CAR)



# Lesson 3

**If People  
Aren't  
Following  
Your  
Process,  
Ask  
“Why?”**

## Notes

- ☐ Don't assume your processes are being ignored because people are lazy, untrained, etc.
- ☐ People may simply be trying to do a good job, by avoiding your bad processes!
- ☐ Use elements of CAR, even at low maturity

See also: “To identify actions that address a defect or problem, you need to understand its root causes,” CMMI-DEV v1.2 (CAR)



# Lesson 2

# Lesson 2

## Background

See also: Lesson 3

- *Organization:* Recently formed 80-person **software development** organization
- *Me:* Newly appointed **Quality Assurance Manager**

### Events



Going back to Lesson 3:  
**Why** did the organization develop “bad” processes?



They'd formed **a tiger team** that labored for 6 weeks



The team included **nobody that would be using** the processes!

### Results

- You already know that: The processes were **unusable!**
- A process **re-development** effort began...
- ...but after several months, the organization **lost the contract** due to poor performance



# Lesson 2



See also: **“Ultimately, everyone must be involved,”** Watts Humphrey



# Lesson 2

Involve  
the **Right**  
**People**

## Notes

*Now I cringe in fear  
when I hear “tiger team”*

- ☐ Avoid stacking your EPG with “ivory tower” experts
- ☐ Involve people who will be responsible for executing the processes
- ☐ Include a diversity of perspectives; you’ll end up with *better stuff!*

See also: “**Ultimately, everyone must be involved,**” Watts Humphrey



# Lesson 1

# Lesson 1

## Background

- *Organization:* Small company, nearly ML2, moving **towards ML 3**
- *Me:* Their PI **consultant**

### Events



PI effort way **behind schedule**



We draw a fishbone diagram, identify **root causes**, implement solutions



Most solutions involve treating PI like a **real project**

### Results

- We rigorously estimate **process development time**
- We develop a schedule down to the **short-duration task level**
- We track **actual progress** in detail
- **Successful** ML3 appraisal – **on time!**

# Lesson 1

## Make Process Improvement a **Project**

See also: **“Unplanned process improvement is wishful thinking,”**  
Watts Humphrey



# Lesson 1

## Notes

- ☐ Make PI your *most important* project, or it'll never compete with short-term customer demands
- ☐ Consider every *practice* from PP and PMC for your PI initiative
- ☐ Estimate like a pro, instead of pulling numbers out of...


See also: "**Unplanned process improvement is wishful thinking,**"  
Watts Humphrey

# Make Process Improvement a **Project**




# Summary

# Review

- 
10. Don't Ignore the **Naysayers**; They May Be Right
  9. You May **Lose People**... and That's Okay
  8. "And Then a Miracle Happens" Is Not a **Deployment Plan**
  7. **Process Improvement** and **Compliance** Are Not Synonymous
  6. Keep an **Open Mind**

# Review

- 
- A woman with blonde hair tied back, wearing a black pinstriped blazer and red earrings, holds a white rectangular sign. The sign contains a list of five steps for process improvement, with certain words highlighted in red. The background is dark and out of focus.
5. **Walk** Before You Run
  4. Avoid a **One-Size-Fits-All** Improvement Approach
  3. If People Aren't Following Your Process, **Ask "Why?"**
  2. Involve the **Right People**
  1. Make Process Improvement a **Project**



# References

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# My Other Presentations This Week

...I hope  
you were  
able to  
make it!



# Questions ?

Intro to CMMI v1.3  
Hard Rock Hotel  
*Las Vegas!*  
Feb 8-10, 2011

## Intro to CMMI-DEV v1.3

- Jan 19-21, 2011, Reston, VA  
Feb 8-10, *Las Vegas*, NV

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