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# The Teacher, the Bathtub and the Bureaucrat

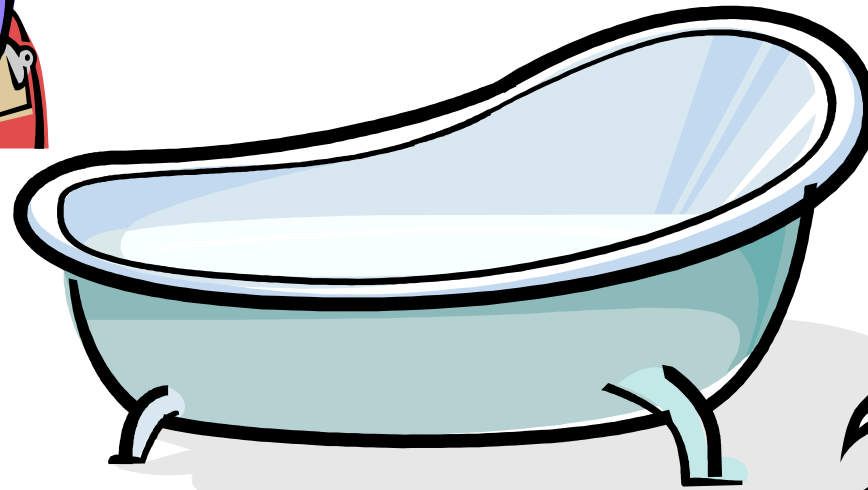
Alan Willett, SEI  
Eileen Fagan, Intuit

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# The Teacher, Bathtub and Bureaucrat

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# Question

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- If it looks like a duck, is it always a duck?

OR

- Can you roll out TSP successfully if you focus on implementing the scripts, slides and books and not the underlying principles?
- What is really required:
  - Understanding of Engineering Best Practices
  - Understanding of the humans involved and their motivation
  - Change management skills

# The Challenge

- **Overall Goal:** To deliver high quality software products that delight customers while consistently meeting their schedule commitments.
- **Bureaucrat Challenge:** To put into place the infrastructure and logistics needed to support projects with TSP
  - across divisions
  - across whole companies
  - across the industry
  - around the world
- **Teacher/Coach Challenge:** To do this while maintaining the passion that first pilots experience by the time you reach the 1000th project.

It is about doing the right thing the right way  
...over and over again with passion!

# What is Required?

## The Bathtub:

- PSP Training
- Management Training
- Training other functional groups
- Initial Pilots
- Executive Sponsorship
- SEPG support
- Team Leaders
- Tools
- Project Reporting Systems
- Policy
- Trained TSP Coaches
- Training for next waves
- Training for individuals as they attrition and new members join
- Assessing projects

## The Principles:

- Engineering Best Practices
- Culture change management
- Reward Systems - Recognizing the right kind of success publicly
- Aligning TSP with other organizational initiatives, training and Performance Reviews
- Maintaining the business case for TSP and Grassroots marketing
- Continuous Improvement focus
- Ensuring passionate TSP Coaches
- Managing impacts to organizational roles as we move from testing quality in
- Corrective actions

Both lists are long and overwhelming!  
Temptation is to focus on the bathtub.



# Our Focus Today

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Sustaining Right



Growing Right



Starting Right



# Starting...Right?

- Pilot Project “X” Results
  - Enthusiastic, process minded project manager
  - 9 of 10 components delivered on time
  - 1 component 1 week late
  - 6 months of usage showing a defect level of less than 0.5 defects/KLOC
  - Team enjoyed the process and was happy with the results



# Stakeholder Reaction

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# Starting... Wrong

- Good outcome in the wrong environment...



- What went wrong?

- TSP pilot project was at the core of a complex program with 11 other projects.
- Lack of true consensus of key stakeholders on why and how the pilot would operate in the context of the program
- TSP pilot start up was 25 % of the available schedule
- Undiscovered stakeholders did not attend TSP training
- “The nail that sticks out gets hammered”
- Lack of management / stakeholder coaching



# Impacts

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- This organization is NOT doing TSP today... despite the success of the pilot.
- Word spread and threatened rollout in other orgs.
- How TSP is introduced has an impact on how the rest of the initiative goes.
- Perceived failures are as damaging as real ones.
- The pilots that get the change management right AND good pilot project results have the most chance of successful expansion.

How you start has everything to do with how you proceed!



# Keys to Starting Right

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- Understand the environment and ALL players involved - do not just focus on the pilot itself.
- Focus on one or two vertical slices of the organization
- Provide “overwhelming force” support to initial pilots. Ensure their success.
- Multiple pilots are okay - but keep them within the vertical slice or you may spread your support forces too thin.
- “Flavor of the month” syndrome is caused by failures and false starts.

You only get one shot at success - there are no “do-overs!”

# Growing Pains

- Sometimes things seem to happen when doing the next projects....
- The right things are done, but something seems wrong...
- The impact is we are at risk to lose a branch of the growing TSP tree.



# What I learned about being a bureaucrat...

- The SEI has a formula and it works to get things started!
- Success brought on lots of desire for changes and customization...
- Doing it right meant
  - Really understanding “what’s important”
  - Gaining a depth of knowledge so I could stick to core principles
  - Letting people own the process, but guiding them in the right direction...



I need to be a teacher  
and a coach!



# Growing Passion

- A critical element of growth is getting the right TSP Coaches in place.
- What is required of the TSP Coach?
  - Commitment / Passion
  - To be respected by
    - executives
    - middle managers
    - team leaders
    - software developers
  - Technical knowledge
  - Communication/ Listening skills
  - **To be flexible in details and unrelenting in core principles**



# Stages of Learning

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To make real change happen, you need to know and affect what level the team or organization is...

- Unconscious incompetence
  - Fear adds an element of “better to fail conventionally than to succeed unconventionally”
- Awareness (Conscious incompetence)
  - I need to learn! ...and change.
- Behavior Change (Conscious competence)
  - Successful pilot(s)!
- Belief Change (Unconscious competence)
  - Institutionalization has occurred!

People only respond to training or coaching when they are aware of their own need for it, and the personal benefit they will derive from achieving it.

# Keys to Growing Right

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- **Keep pace with your capacity**
  - Success often leads to trying to push too fast (or trying to honor too many people asking for TSP services)
- **Recruit Passion**
  - For your TSP Coaches
  - For the next wave of TSP projects after the pilots
- **Plan for success when you plan your first pilot. Be thinking ahead to**
  - What TSP Coaches you want?
  - How will they be organized?
  - What is the job path?
  - How many TSP Coaches will you need?
  - Which projects when?
- **Reach outside your organization to learn from others**





# Sustaining

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Walk into a well managed business and it will seem  
BORING...

People are going about their duties in a steady, assured  
manner.

It is not like being in an Emergency Room, which is the  
ambiance of losing organizations that strive to stave  
off utter chaos and panic.

....Peter F. Drucker

# Managing with TSP

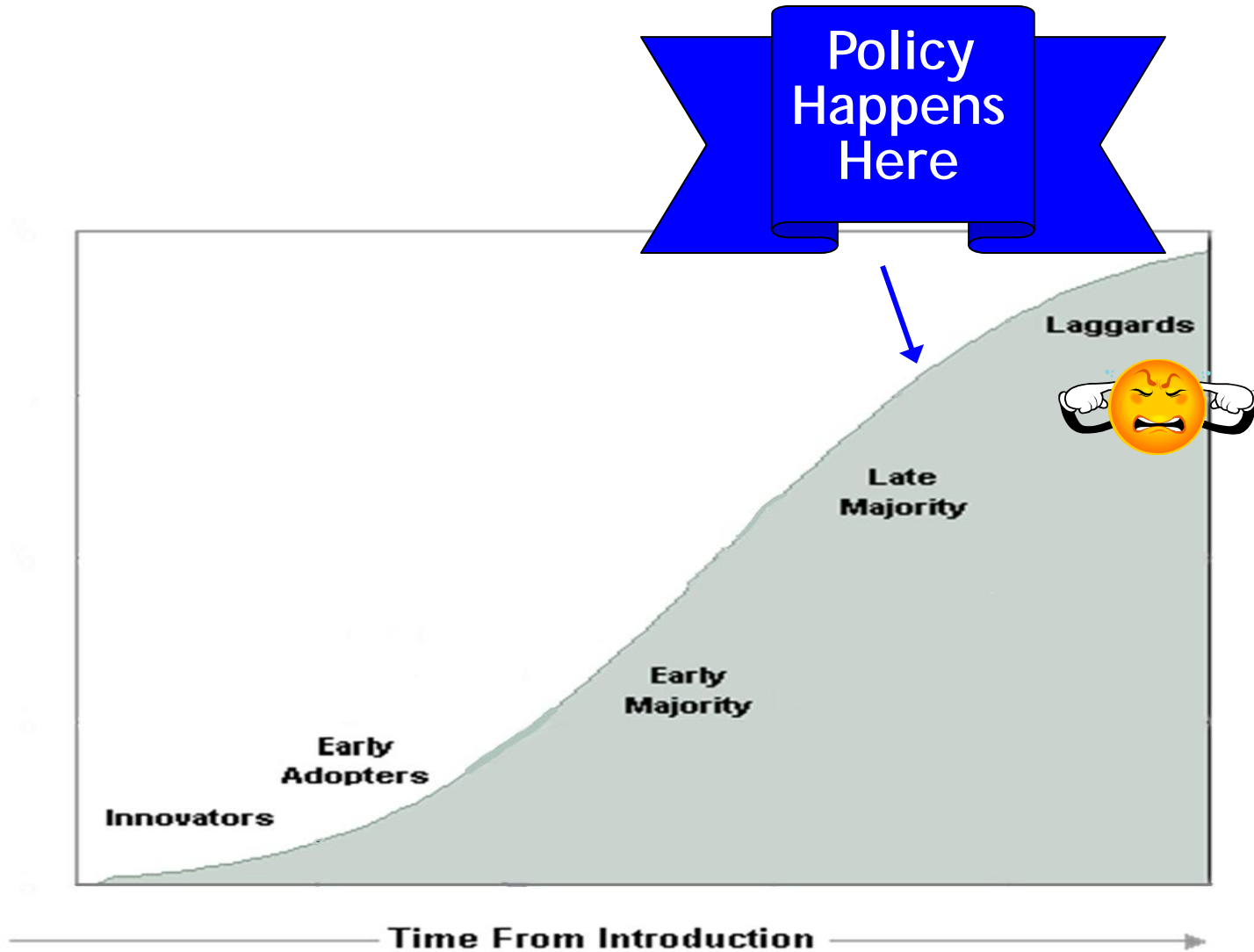
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Once TSP has reached a critical mass, it must become part of management operating mechanisms.

- Measurable and achievable goals are agreed to
- Teams execute processes to achieve them
- Rewards are based upon achieving these goals
- Firefighting is NOT rewarded.
- Improvement is continuous.

# Policy



# Assessing

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- When we are doing hundreds or thousands of TSP projects, we will need a method to assess if TSP is being done “right.”
- What are the key things to look for? Are key principles underlying TSP being met?
  - Superior work meets business needs
  - Products meet customer needs and desires on time and with quality
  - It is faster and cheaper to build quality products
  - Quality is managed
  - Those that do the work, own the process and the plans
  - Motivated teams do the best work



# Corrective Action

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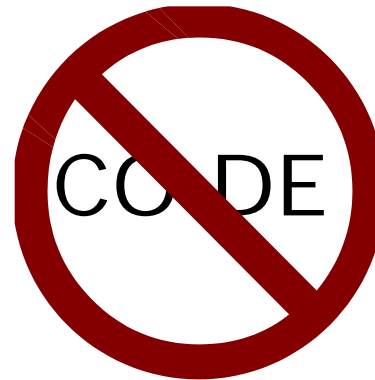
General Thomas Ryan as quoted in Darker Shades of Blue by Kern.

“...I expect all flying supervisors to follow 3 guidelines.

First, recognize, encourage and reward people accomplishing the mission.

Second, identify and motivate the people who have not learned our rules.

*Third, act decisively to ensure those who choose not follow our standards do not fly our aircraft.”*



# Continuous Improvement

- **Imagine.... A learning organization**
  - Where all projects are doing TSP
  - Where delivery to system test and beyond is consistently  $<0.1$  defects per KLOC
- **The key to avoiding complacency is a focus on continuous improvement.**



# The Challenge Summary

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- A coach's challenge is to make one team successful
- A bureaucratic challenge is to make an organization or company successful
- The SEI's challenge is to worry about all these stages on a world wide basis

# Conclusion

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- “From a good opening you can lose, from a bad opening you cannot win.”
  - Janice Kim, Go Master



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# THANK YOU !