

Driving a Quality Mindset for Continuous Improvement

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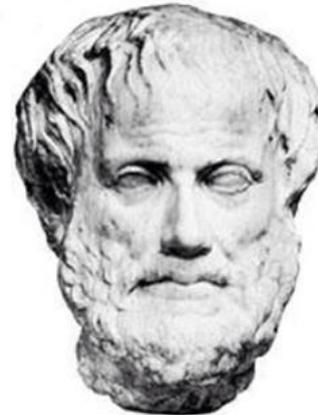
Drive on Quality Lane



Maserati GT sport vs
1994 Supra Twin Turbo



Quality Mindset



QUALITY IS NOT AN ACT-

COURTNEYPRICE.COM
IT IS A HABIT.

-ARISTOTLE

What is Quality?

- Degree of excellence – Oxford dictionary
- Fitness for purpose – Edward Deming
- Best for the customer's use and selling price – Feigenbaum
- The totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs – ISO
- Definition by ISTQB. **quality**: The degree to which a component, system or process meets specified requirements and/or user/customer needs and expectations.

Why Should You Care?

- Enhance your organization's brand and reputation
- Protect it against risks
- Increase its efficiency
- Boost its profits and position it to keep on growing
- Staff and customer satisfaction

Why Do You Think Quality Initiatives Fail?

- Poor governance
- Ineffective assurance
- Resistance to Change

How Do You Think Organizations Achieve Quality?

- Effective governance
- Robust systems of assurance
- Culture of improvement

How did I help teams achieve quality?

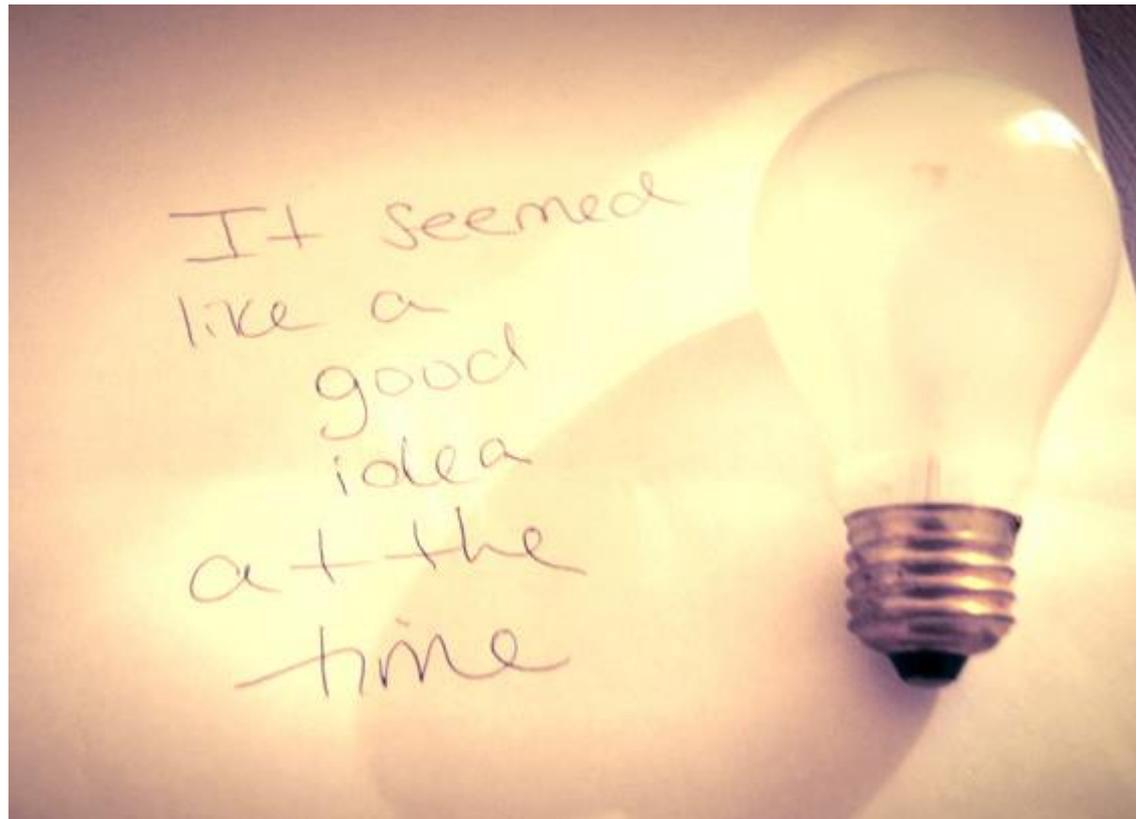
Math Sense

- Passion + Inertia of Change = Opportunity
- Passion + Effectiveness > Resistance to Change = Culture of Improvement

"You've been handed autonomy!"



Overcoming Obstacles



Phase 1 – Mixture of Failures

Method: Improvement Kata

Goals: Get teams to continuously communicate quality

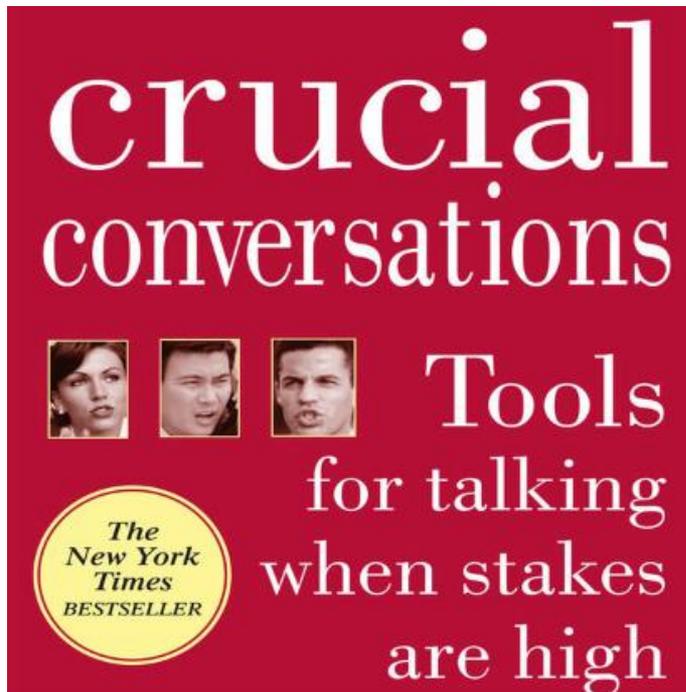
Team A	Results	Team B	Results
Dominate personalities, highly skilled	Inability to influence whole team. Resulted in influence through SQA resource.	Highly skilled, more agreeable	Easier to influence whole team
Agile practice in Rally, but no defects recorded	No way to measure quality	Agile practice in Rally, and metrics easily collected	Implemented quality objectives to improve metrics
Pressure on team to meet delivery deadlines	No time to change	Pressure on team to meet delivery deadlines	Team made time to implement changes
Overall Results	Conceded to senior management to influence	Overall Results	Effectiveness of quality was slow due to team focus on delivery. Team starts communicating quality.

Turning Point



When stakes are high and emotions run high use Crucial Conversations

“Any time you find yourself stuck, there’s a crucial conversation you’re either not holding or not holding well”



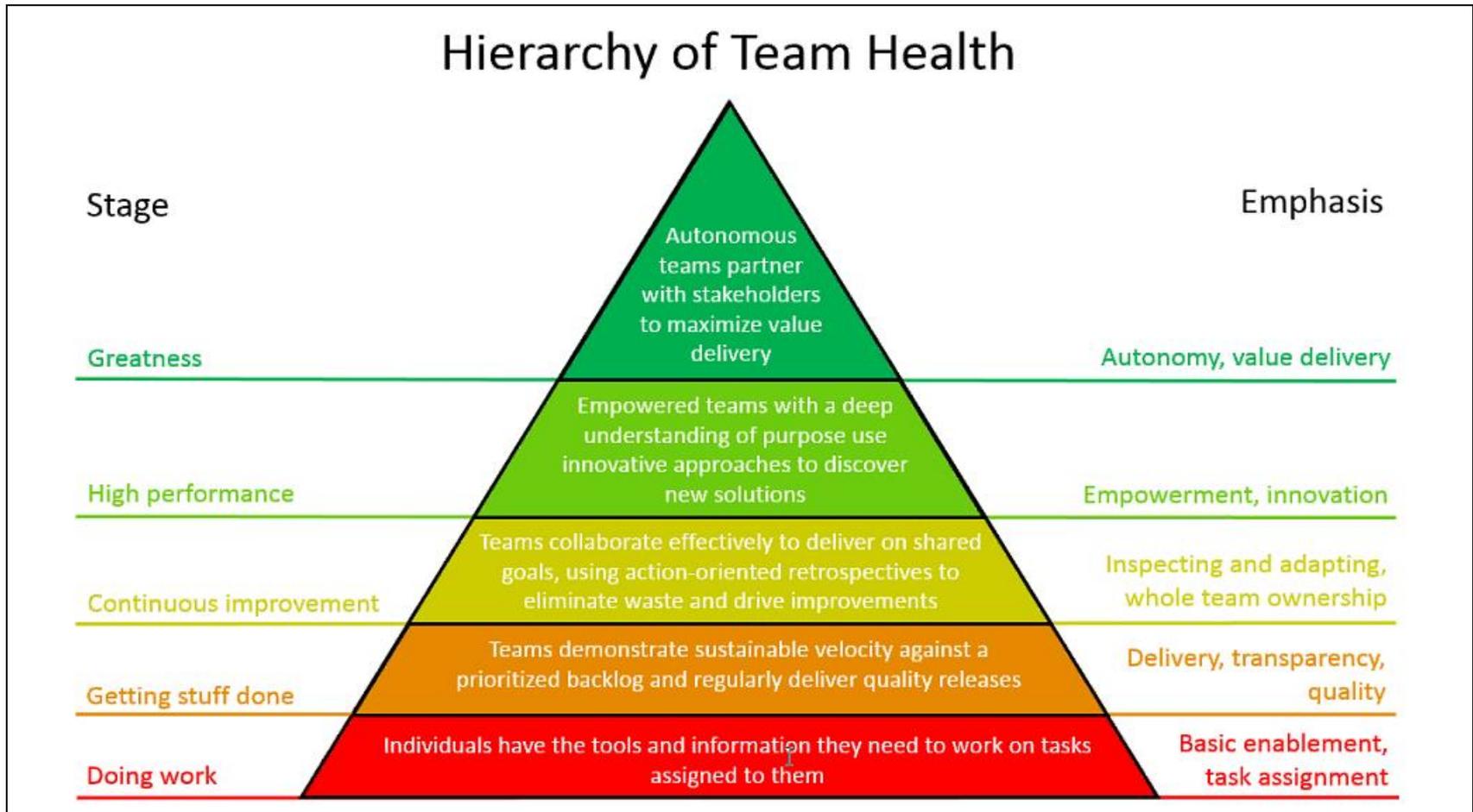
“To succeed in crucial conversations,
WE MUST REALLY CARE ABOUT THE INTERESTS OF OTHERS
– not just our own.”

Crucial Conversations
New York Times Bestseller



Phase 2 – Small successes

Hierarchy of Team Health



Phase 2 – Small successes

Method: Improvement Kata + Hierarchy of Team Health

Goals: Get teams to continuously communicate quality

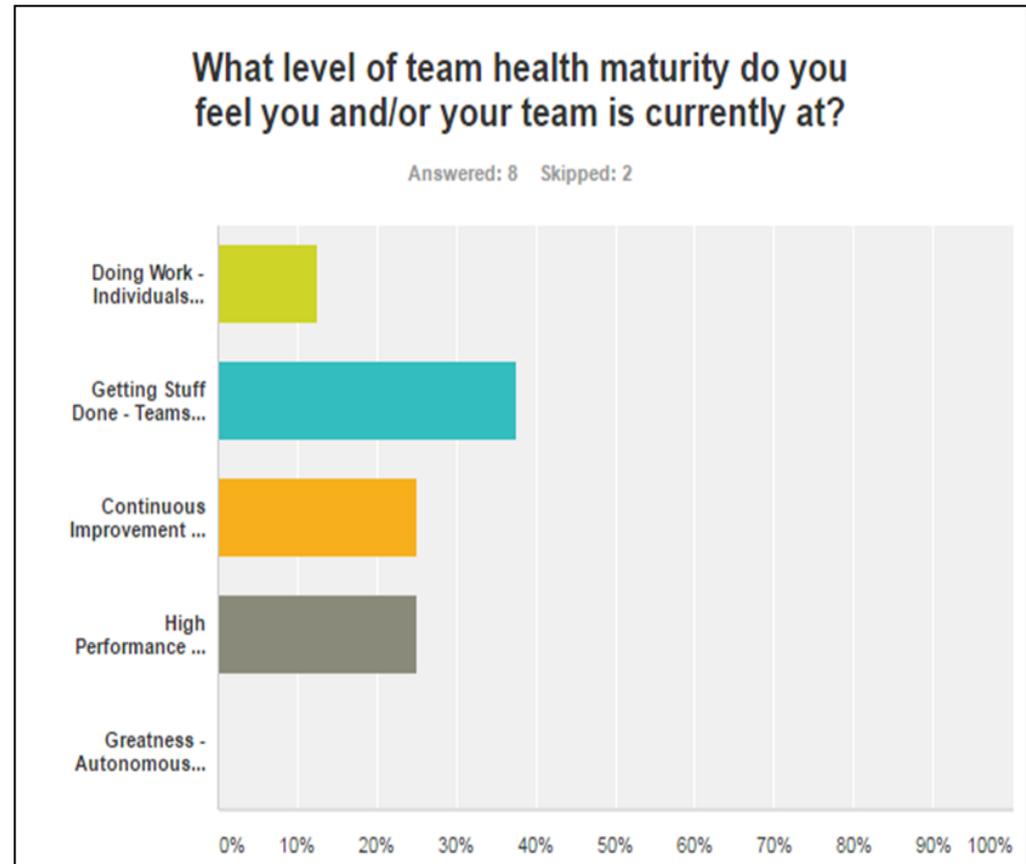
Team A	Results		Team B	Results
NONE			Continued to use Improvement kata in regular retrospectives	One developer champion the unit test initiative and then taught the rest of the team
			Regular retrospectives using GroupMap brainstorm	Team communicating, thinking of own ideas, and taking ownership
Overall Results	Conceded to senior management to influence		Overall Results	Wanted autonomy. No longer needed outside influence. Was self-organized and took ownership of quality

Phase 2 – Small successes – Team C

Method: Improvement Kata + Hierarchy of Team Health

Goals: Get teams to continuously communicate quality

Team C	Results
Highly engaged, more agreeable, and had management support	Easier to influence whole team.
Paired with Core Responsibilities (performance management)	Better engagement from the team
Retrospectives, data collection from Rally and assessed team's baseline	Quality objectives identified for team to improve and be consistent on best practices
Overall Results	Survey results did not match actual data. Team shocked.
Overall Results	Code Review Best Practices and Test Driven Development

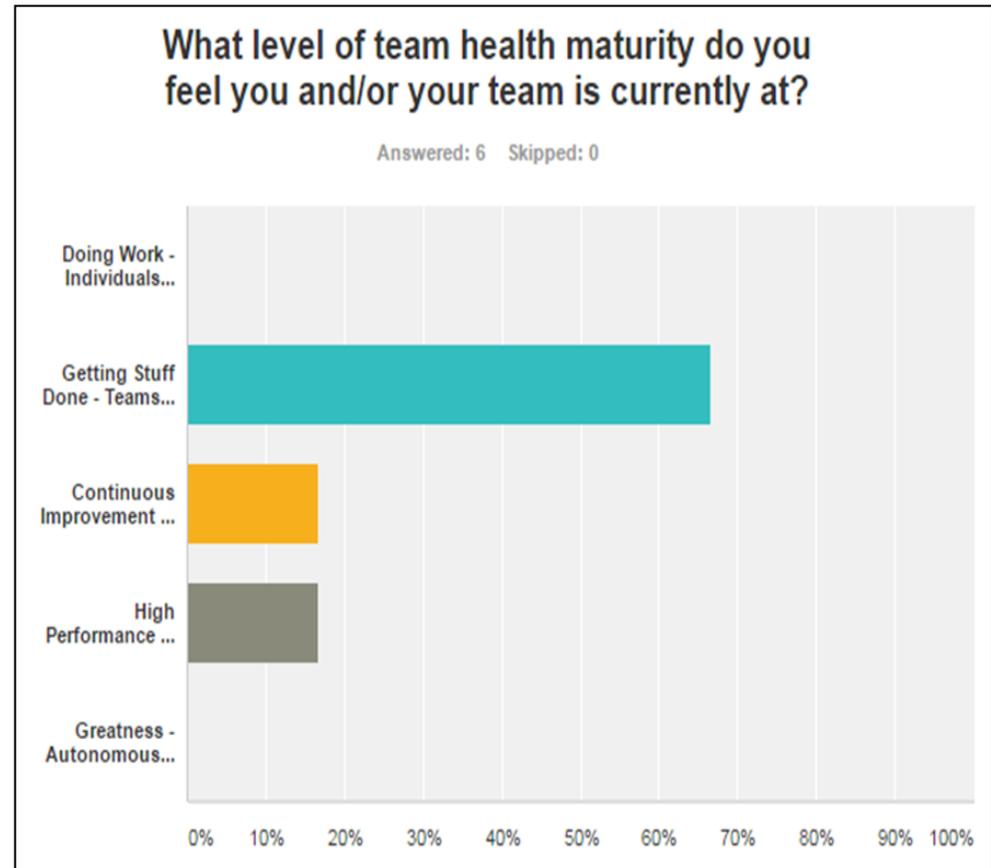


Phase 2 – Small successes – Team D

Method: Improvement Kata + Hierarchy of Team Health

Goals: Get teams to continuously communicate quality

Team D	Results
Engaged, agreeable, and willingness to learn	Easier to influence whole team
Paired with Core Responsibilities (performance management)	Better engagement from the team
Retrospectives and implementation of best practices	Behavior change from leader to support growth of team members
Overall Results	Survey results did not match actual data. Team shocked.
Overall Results	Code Review Best Practice and Automation Testing



Phase 3 – Quality matures with a new appreciation for its purposes

Method: Improvement Kata + Refined Focus on quality objectives

- Applied Lessons learned: Narrowed down to 3 areas of quality initiatives whose activities will draw out weak areas to improve
- For example: Test Driven Development

Phase 3 – Quality matures with a new appreciation for its purposes

Method: Improvement Kata + Refined Focus on quality objectives

Results: Creation of Programs/Workshops for Code Review, Automation Testing, and Test Driven Development

- Includes Workshops – WHY, HOW, and Implementation using Best Practices
- Includes Milestones – with quantifiable metrics to measure implementation of best practices
- Includes using Improvement Kata for refinement between milestones

Lessons Learned

Little steps take you to big successes

- Every success and failure is a lesson
- Quality mindset shift takes leadership support
- Improvement Kata works – with quantified goals
 - Modest goals
 - Easy metrics
 - Time frame
- Crucial conversation

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Questions?

Attributes Team Acquired for Culture of Quality

- Autonomy – earn it and own it
- Team Empowerment
- Leadership Support – leaders need to walk the walk
- Improvement Kata/Kaizen– with quantified goals
 - Modest goals, routine measures
 - Easy metrics
 - Use GroupMap Brainstorming tools
- Consistency, systematic thinking
- Continual feedback
- Teamwork
- Crucial conversations
- Willingness to fail – learning and growth

	Automation Testing Suggested Timeline
Month 1	Kick start Your Automation Success
Week 1	Kickoff Session
	Choose a Champion (EOW)
Week 2	Train the Champion
	Team Activity: Automation Decision Guidelines (Tool Selection)
Week 3	<i>Workshop: Automation Strategy Guidelines</i>
	Team Activity: Define Automation Strategy
Week 4	Team Activity: Prepare to Implement Automation Strategy
Month 2	Milestone 1: Implement Your Automation Strategy
Week 1	<i>Workshop: Automation Frameworks</i>
Week 2	
Week 3	<i>Workshop: Test Case Design & Rally</i>
Week 4	
Month 3	Milestone 2: Some # of tests are written & executed in each iteration
Week 1	<i>Workshop: Test Techniques in Test Automation</i>
Week 2	
Week 3	<i>Workshop: Automation Best Practices (TBD) or Exploratory Testing with Automation</i>
Week 4	Retrospective: Team should be able to determine Go-No Go

Examples

Objective 1: Kick-off Session: Understand the WHY of Automation Testing

Activities: Attend or Review Recording: “So You Want to Automate” Presentation

Goal: Understand WHY, HOW, and Best Practices to start automating testing in project

Expected Results: Team understands the guidelines to building quality into the automation strategy before starting implementation

Objective 2: Choose a Champion

Activities: Team will select a champion, or directed by a manager.

Due date: 1 week

Goal: Identify a champion who will help the team to stay focus and drive the team’s initiative

Expected Results:

A champion will be selected within one week of Kick-Off Session

Examples

Objective 3: Train the Champion

Activities: Selected Champions will be trained on their role and responsibilities

Goal: Champions will understand their role and responsibilities in helping their team

Expected Results:

Champions will acquire all the knowledge, training materials, program schedule, metrics, support and understanding on how to help support their team in the quality journey

Team Activity 1: Automation Evaluation: Automation Decision Guidelines

Activities: Automation Decision Guidelines (see matrix)

Activities: Review UI Automation Starter List with team

Examples

Milestone 2: 20% of the User Stories and/or backlog of tests in an iteration have test scripts written, run concurrently with each sprint, and outputs measurable results

Activities: Team (Dev or QA) write and execute 20% of the user stories and/or test case backlog successfully.

- + Refine process: Add 1 new best practice activity/metric to track
- + Repeat until team achieved new best practice/metrics

Expected Results: Team should be able to validation ROI at this milestone. May require team retrospection.

Team Health Criteria Examples:

Doing Work:
Test Case Density (# TC per User Story per Iteration)
Defect density
Defects per iteration
Defects per release
Defects in production
Unit Tests (per user stories)/Code Coverage
Story Points Per Iteration
User Stories Per Iteration
Time Estimation Per User Story
Defect Management
Terminated vs Active Defects
Getting Stuff Done:
Historical data: Story Points vs Story Count metrics
What is our velocity/cycle/lead time? (Number of time a story starts In Process to Accepted)

Getting Stuff Done:
Historical data: Story Points vs Story Count metrics
What is our velocity/cycle/lead time? (Number of time a story starts In Process to Accepted)
Burn down chart
Prioritized backlog
Basic SQA Best Practices (Test Strategy, Test Cases, Defects, Regression)
Basic Coding Best Practices (Code Reviews, Impact Analysis, etc.)
Reducing defects frequently
Defect Triage Process
Code testable by QA (all user stories)

Continuous Improvement:
Continuous deployment
Continuous integration - automatic unit test scripts
Automation - Regression test scripts
Performance monitoring/optimization
Frequent action-oriented retrospectives (Improvement Kata)
Refactoring frequently
Security & vulnerabilities risk management