

**Efficiency of Practice:  
Improvement Science**

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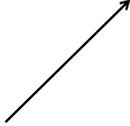
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**Performance Improvement**

**Domains of Performance:**

- Quality and Safety
- Service
- Efficiency

Current Performance  Desired Performance

**Examples:**

- ▶ EHR usability
- ▶ OR turnaround times
- ▶ Time on elective surgery after hours
- ▶ Scheduling
- ▶ Patient portal
- ▶ Documentation
- ▶ Team-based care
- ▶ Staffing

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**Change: Promise and Risk**



“Fools rush in where angels fear to tread.”

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<http://www.islandhopping.com/ship-art.html>  
<http://shipmanagementinternational.com/national-maritime-museum-secures-celebrated-photographic-collection/>

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## Improvement Science

science (n)<sup>1</sup>:

A department of systematized knowledge as an object of study.

im·ple·men·ta·tion (n)<sup>2</sup>:

The process of putting a decision or plan into effect; execution.

- o **Well-tested, validated solution**

im·prove·ment (n)<sup>3</sup>:

The process of modifying a process or procedure in order to better align the actual outcomes with the desired outcomes.

- o **You know where you want to go, but not necessarily how to get there**



1: google.com, 2: https://www.merriam-webster.com/dictionary/science, 3: wikipedia.org/wiki/Improvement

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## The Art of War

“Sun Tzu said:

The art of war is of vital importance to the State.

It is a matter of life and death, a road either to safety or to ruin. Hence it is a subject of inquiry which can on no account be neglected.

The art of war, then, is governed by five constant factors, to be taken into account in one's deliberations, when seeking to determine the conditions obtaining in the field.

These are: (1) The Moral Law; (2) Heaven; (3) Earth; (4) The Commander; (5) Method and discipline. ...

These five heads should be familiar to every general: he who knows them will be victorious; he who knows them not will fail.”



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## The Art of Improvement

The art of improvement is governed by five constant factors, to be taken into account when seeking to determine whether a QI project will be successful.

These are: (1) Leadership; (2) Method; (3) Resources; (4) Cultural Awareness; (5) Execution.

These five factors should be familiar to every improvement leader: he or she who knows them will be successful; he or she who knows them not will fail.



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### The Art of War



Every battle is won or lost before it is ever fought.



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### The Art of Improvement

Every improvement effort succeeds or fails before it is ever started.



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### What Could Possibly Go Wrong?

The most common mistake in improvement:



Roo-kie mis-take (n):

A mistake, often egregious, made due to lack of experience



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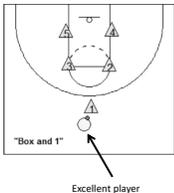
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### The Art of Improvement

What is this?  
When would you use it?



"Box and 1"  
Excellent player

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[http://www.stanford.edu/news/development/2014/04/23/042314\\_box\\_and\\_1.html](http://www.stanford.edu/news/development/2014/04/23/042314_box_and_1.html)

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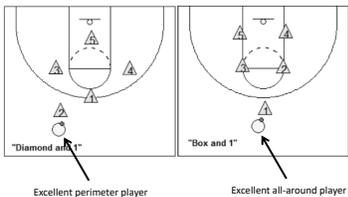
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### The Art of Improvement



"Diamond all 1"  
Excellent perimeter player

"Box and 1"  
Excellent all-around player

When would you use each of these?

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[http://www.stanford.edu/news/development/2014/04/23/042314\\_box\\_and\\_1.html](http://www.stanford.edu/news/development/2014/04/23/042314_box_and_1.html)

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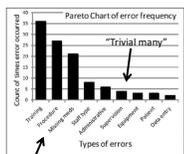
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### The Art of Improvement

What is this?  
What rookie mistake does this help prevent?



Pareto Chart of error frequency

"Vital few"

"Trivial many"

Types of errors

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[http://www.stanford.edu/news/development/2014/04/23/042314\\_box\\_and\\_1.html](http://www.stanford.edu/news/development/2014/04/23/042314_box_and_1.html)

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### Factors of Success

#### The Lay of the Land

- Leadership
- Method
- Resources
- Cultural Awareness
- Execution



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MEDICINE | <http://www.blackfive.net/main/2008/02/the-lye-of-the.html>

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### Deming's "Profound Knowledge"



#### What it takes to understand improvement

- Subject matter knowledge

Then:

- Appreciation of processes and systems
- Understanding of performance measurement, data, and variation
- Theory of developing practical knowledge (PDSA cycle)
- The psychology of change

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MEDICINE | <https://www.stanford.edu/content/dam/hsd/hsd-000001010-stack-up-against-deming-08-2007/>

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### Leadership

Case #1:

You implement a change in a workflow that some of the technologists do not like. When one of the technologists goes to complain to her manager, the manager responds by saying, "This is the first time I've heard of this. It sounds silly. Let me go talk to the radiologist and sort this out."

What did you do wrong?

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MEDICINE | <http://www.blackfive.net/main/2008/02/the-lye-of-the.html>

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**Leadership**

Organizational leader: Accountability and authority

**Hospital:**

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**Leadership**

Organizational leader: Accountability and authority

**Medical practice:**

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**Leadership**

**Organizational Leader's Role in Change**

- Sets the vision
- Models the behavior
- Empowers the right people
- Addresses skeptics, resisters, disrupters
- Mobilizes resources
- Enables execution
  - Removes barriers
  - Provides guidance

**Leaders cannot single-handedly effect change...  
...but they can single-handedly undermine it**

LEADING CHANGE  
JOHN P. KOTTER

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## Leadership

### Not the organizational leader's role

- Solve the problem

### Not the well-being director's role

- Solve the problem

### Well-being director's role

- Diagnose, monitor, learn, engage, support, partner



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## Method

### Case #2:

You discuss with your technologist manager the issue of timely verification of radiographs, which has been a problem in your department for years. The next day, you see your manager and he informs you, "don't worry, it's all taken care of. I had a talk with the technologists and they now understand the expectations."

What did you do wrong?



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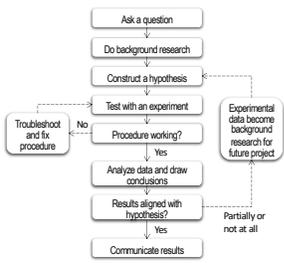
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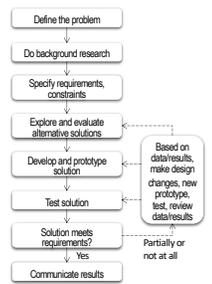
### The Scientific Method

Purpose: Answer a question



### The Engineering Design Process

Purpose: Solve a problem



<http://www.sciencebuddies.org/engineering-design-process/engineering-design-compares-scientific-method.shtml>

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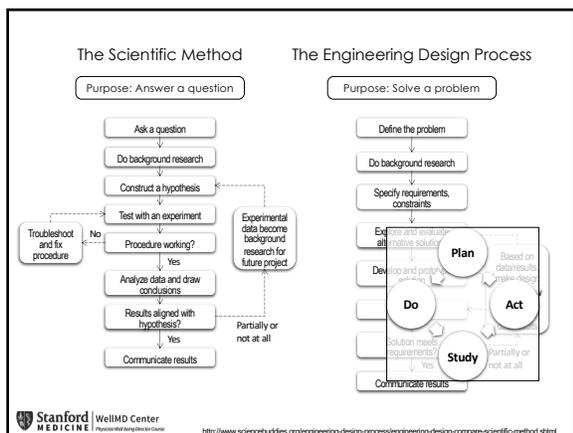
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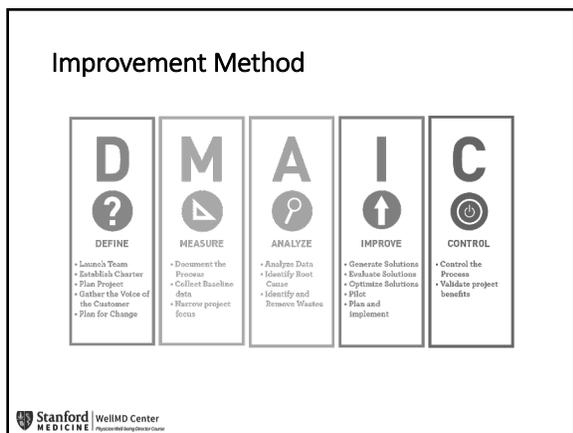
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Project Title: \_\_\_\_\_

Problem Statement: \_\_\_\_\_

Background: \_\_\_\_\_

Project Status: SMAAI Goal: \_\_\_\_\_

Current State: Identify Layout / Actual / Gap: \_\_\_\_\_

Analysis: \_\_\_\_\_

Key Objectives: \_\_\_\_\_

Interventions / Countermeasures: \_\_\_\_\_

Sustain Plan			
Activity to sustain	Owner	Sustain method and frequency	Report to

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### Resources



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### Resources

What will it take to be successful?

- Protected time
- Education and training
- Data
- Coaching
- Access to experts
- Possible investments in equipment, software tools, facility remodel, etc.

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### Cultural Awareness

Case #4:

You and your QI team develop a solution to the problem of delayed start times for CT. You decide that ED nurses simply need to call the CT tech 10 minutes before the exam. When this is shared at a meeting with the ED nurses, it is met with anger and hostility.

What did you do wrong?

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### Cultural Awareness

#### Organizational Culture

- Shared norms and values that drive behavior, especially interactions
- Describes what is acceptable vs unacceptable
- Reflects feelings individuals have toward each other, the organization, and organizational units



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### Cultural Awareness

#### Questions to ask:

- Who will be impacted by the change?
- Is everyone who will be impacted included?
- How big is the impact? How will people feel about the changes?
- Are people used to change? Are they tired of it?
- How will people react to exposing problems?
- What are the interpersonal dynamics?



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### Execution

#### Case #5:

You put together a team and start on a project with great enthusiasm. After the first meeting, a month goes by with nothing happening. A flurry of emails indicates that it is not clear who is supposed to do what. Some team members try interventions without others knowing. Frustration builds and the project stalls.

What did you do wrong?



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### Execution

The art and science of getting stuff done

- Choose projects wisely
- Choose project roles wisely
  - **Sponsor:** Commissions project, assembles team, follows progress, removes barriers
  - **Project leader/manager:** Keeps team on task, clarifies assignments, follows up
  - **Project coach:** Provides guidance on methods, helps with data, connects with sponsors as needed
  - **Project participant:** Contributes ideas, fulfills assignments



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### Execution

#### Project Management



<https://www.derezon.com/project-management/>

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### Execution

#### Project Management Basics:

- Clarify objectives
- Define tasks required to meet objectives
- Clarify timeline
- Set expectations of **what** is to be done **by whom** and **by when**
- Follow up—ask people to report on progress



<https://www.derezon.com/project-management/>

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## Execution

### Working Meeting:

#### Agenda

- Review previous action items
- Update on project status
- New issues
- Review action items
  - Who is supposed to do what by when



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## Factors of Success

### The Lay of the Land

- Leadership
- Method
- Resources
- Cultural Awareness
- Execution



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## Final Pearls

- Define the partnership between the well-being director relative to the improvement leader
- Have a strategy for improving
  - Start with the highest yield efforts
- Don't set up a parallel improvement program
- Don't jump to solutions
- Don't over-plan the improvement
- Respectfully engage with those whose practice you are trying to improve
  - Engagement is part of the solution
- There is such a thing as too much improvement
  - Place improvement in context
  - Pace yourself

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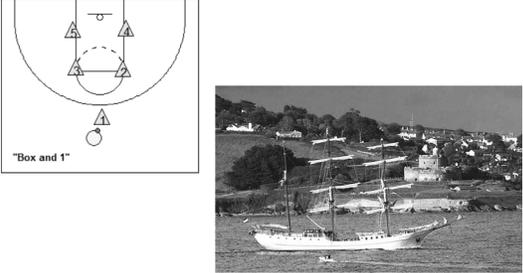
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### The Art of Improvement



"Box and 1"

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