

On Baseball, Bowling Balls, and Teamwork

Presented by Bill Bellows

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Technology Management Seminar Series

Portland State University

April 11, 2014

Abstract

As with many success stories, the American pastime of baseball has many fathers (and mothers), with a heritage that extends well beyond the original thirteen colonies to England. Consider the design of the playing field, with “foul” lines emanating from “home plate,” to the left, past third base, all the way to the outfield fence, and to the right, past first base, to the right field fence. Nine defensive players are distributed around this diamond and across the outfield. None of their jobs are defined by outlines that restrict their roles in the way that a goalkeeper in soccer can use his or her hands only within the confines of the penalty area.

Abstract

What if, in contrast, baseball players were each constrained in their field positions by solid boundaries, painted on the field? Might this situation begin to approximate the operation of an organization with inflexible job descriptions, wherein employees are left to believe their respective roles are independent? In the absence of interdependence, the concept of a team sport might instead be known as a group sport, with a common aim superseded by individual aims.

Abstract

Beginning with an exploration of baseball and bowling balls, this aim of this presentation is to share a proposal for “better thinking about thinking” as it applies to teamwork in all aspects of our lives.

Agenda

- *Background*
- *Reflections*
- *Modes of Thinking*
- *Purposeful Resource Management*
- *Opportunities to Act*
- *Opportunities to Think*

Background

On Baseball



Product / Program / Project

As Conceived



The top 5 uses:

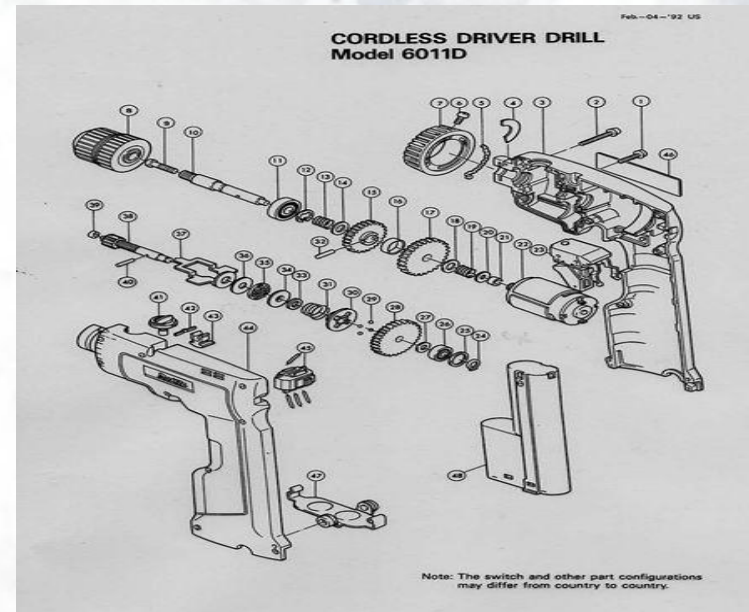
1. Replacing the screwdriver
2. Pilot holes
3. Hole saw
4. Drywall installation
5. Concrete

Product / Program / Project

As Conceived



As Managed



Super Models



Mental Models

...ideologies are the shared framework of mental models that groups of individuals possess that provide both an interpretation of the environment and a prescription as to how that environment should be structured.

Source: Shared Mental Models, Denzau, A. and D. North

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Mental Models

...mental models are the *internal* representations that individual cognitive systems create to interpret the environment and the institutions are the *external* (to the mind) mechanisms individuals create to structure and order the environment.

Source: Shared Mental Models, Denzau, A. and D. North

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Mental Models

*Essentially, all models are wrong,
but some are useful.*

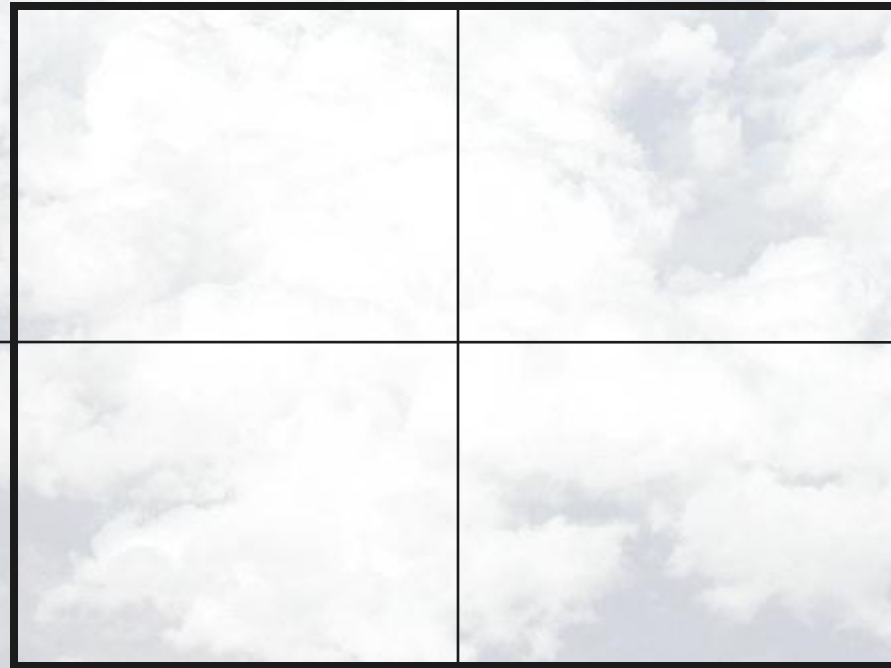
Professor George Box

Resource Management Model

A
c
t
i
v
i
t
y

Proactive

Reactive



“Mine”

“Ours”

Ownership

Resource Management

Proactive – applying effort while “good,” “OK,” “well,” or “correct” is happening

Reactive – applying effort after “bad,” “not OK,” “sick,” or “incorrect” happens

Resource Management

“An ounce of prevention is worth a pound of cure”

Ben Franklin

“A stitch in time saves nine”

Francis Baily

“Every dollar we invest in high-quality early education can save more than \$7 later on”

Barack Obama

Perception & Thinking

“What we see depends on what we thought before we looked.”

Myron Tribus

Ink & History

“The very ink with which all history is written is merely fluid prejudice.”

Mark Twain

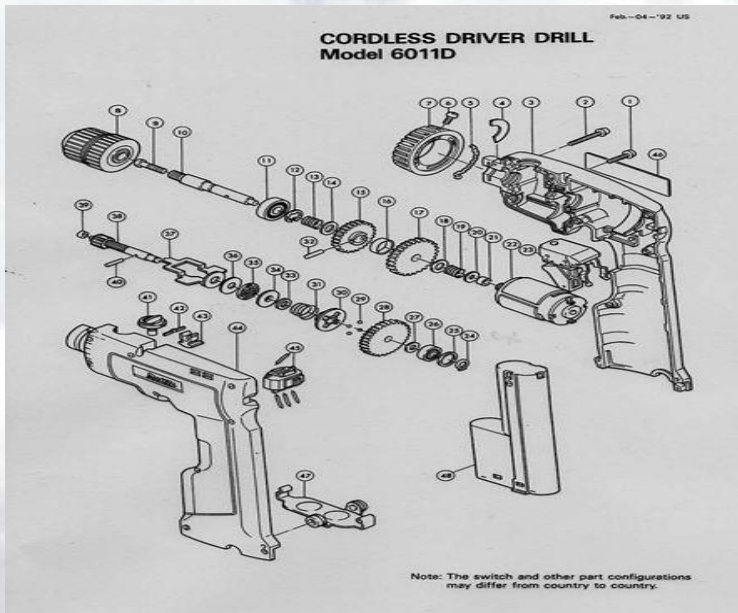
Actions & Interactions

“A system is never the sum of its parts. It is the product of the interactions of its parts.....the art of managing interactions is very different indeed than the management of actions, and history requires this transition for effective management.”

Russ Ackoff

Actions & Interactions

Actions - Parts



Interactions - Gaps



Reflections

Horse Trading

“The secret to selling a horse is...



Mark Twain

Time Management

How much time is spent discussing parts, tasks, activities, program milestones, etc. which are good and completed on time?

How much time is spent studying for the final exam, questions from weekly quizzes and the mid-term which were correct?

Time Management



Buying Watermelons and Briquettes

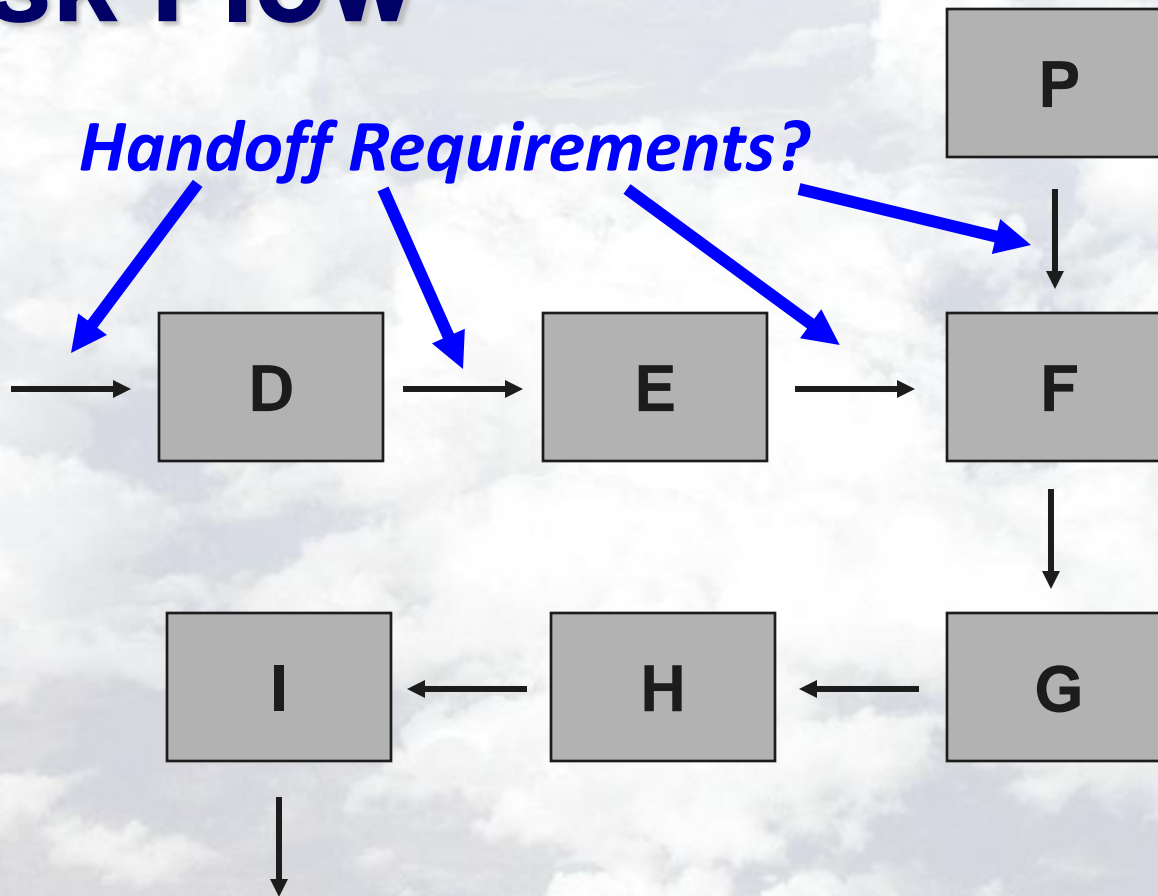


Grades

What letter grade is required for all purchased parts and services, as well as tasks completed internally?



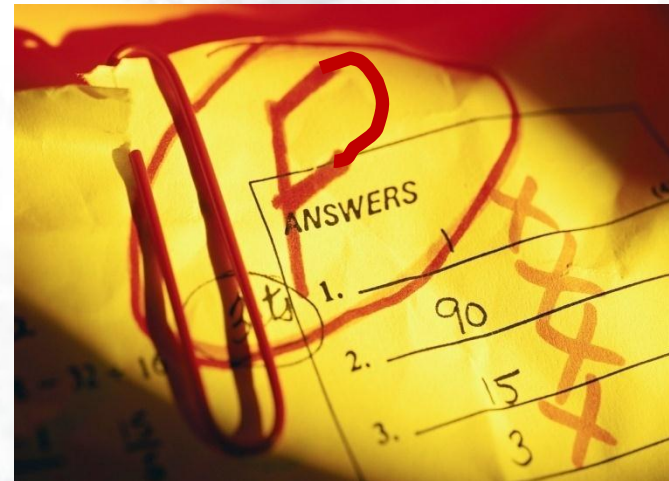
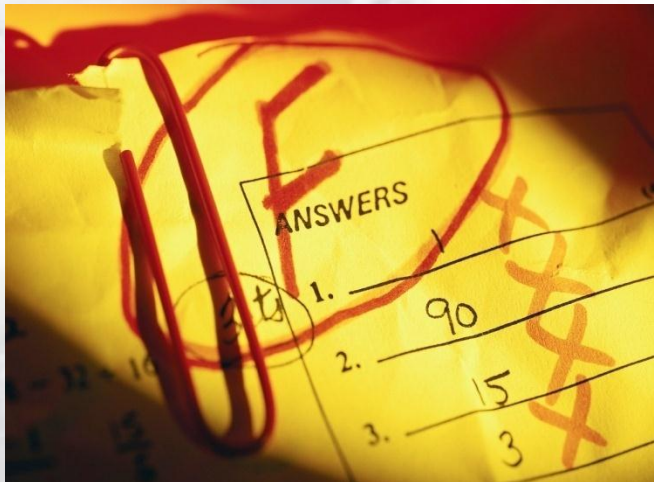
Task Flow



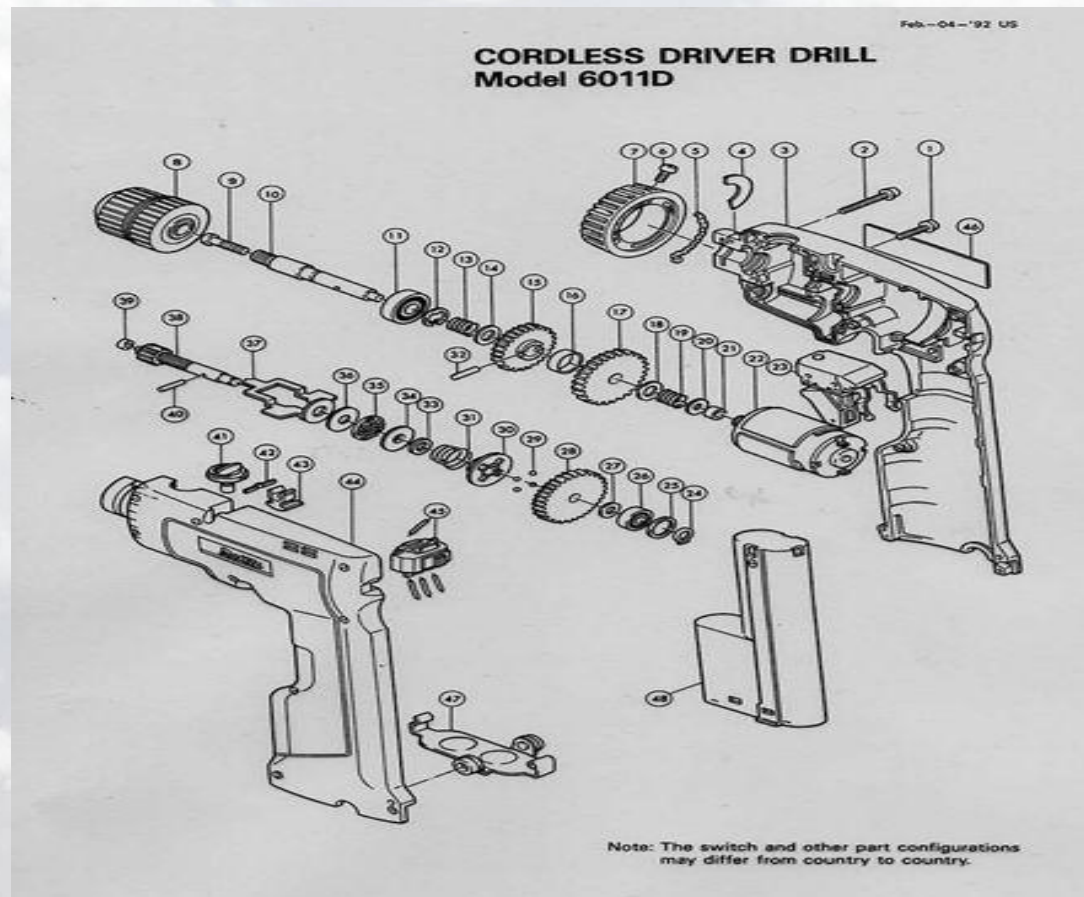
Task Grades



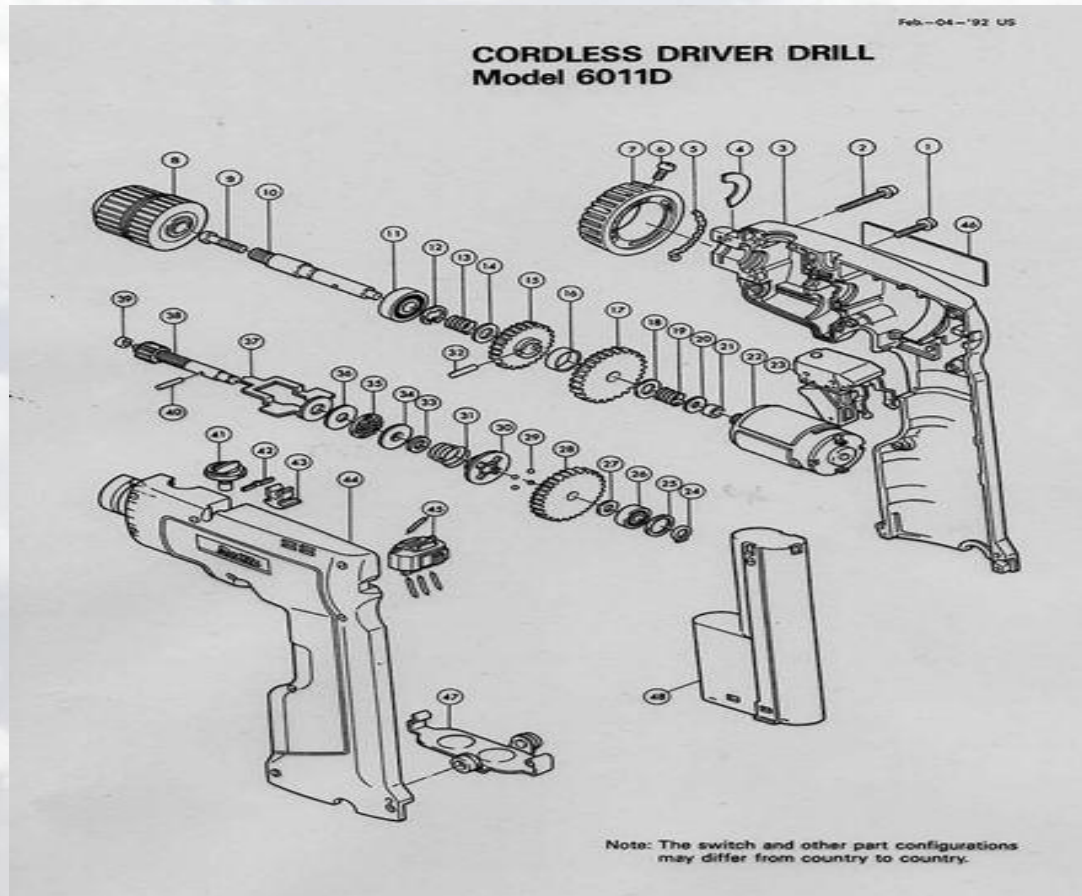
Task Grades



Task Management



Macro System Model

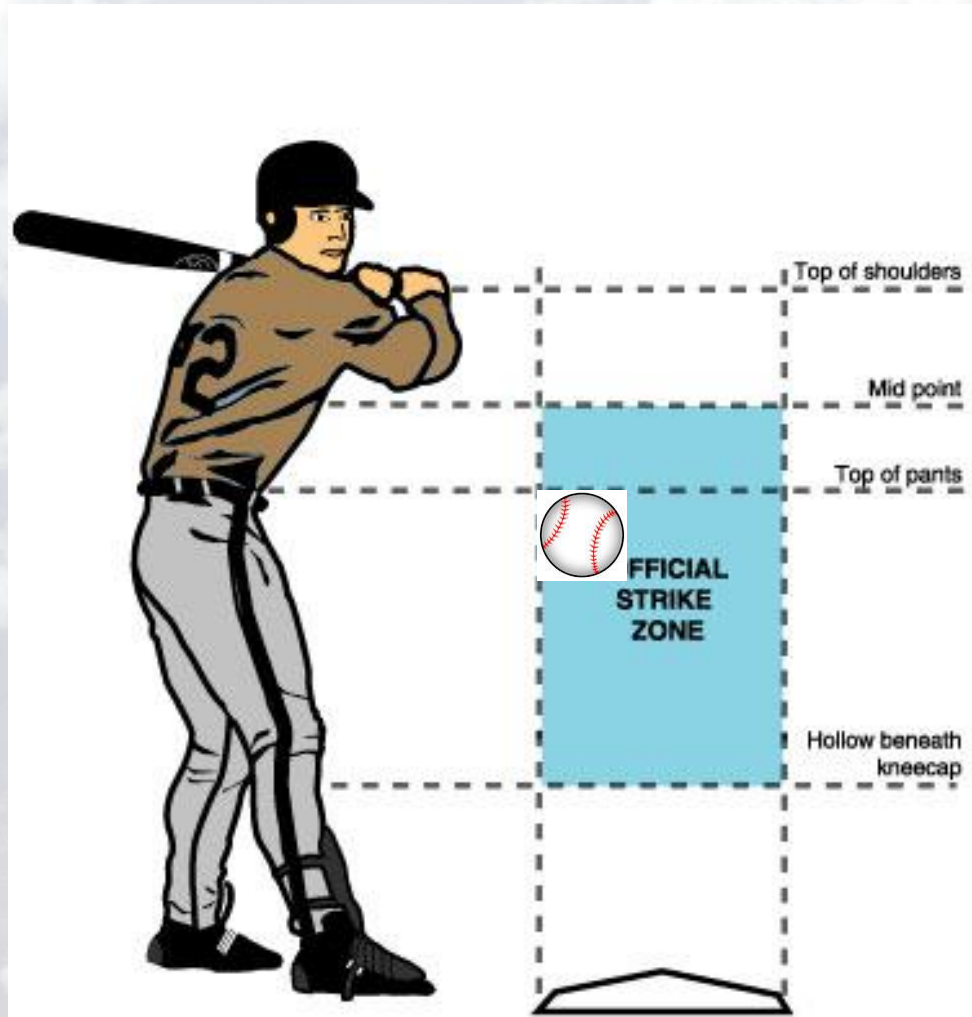


Macro System Model

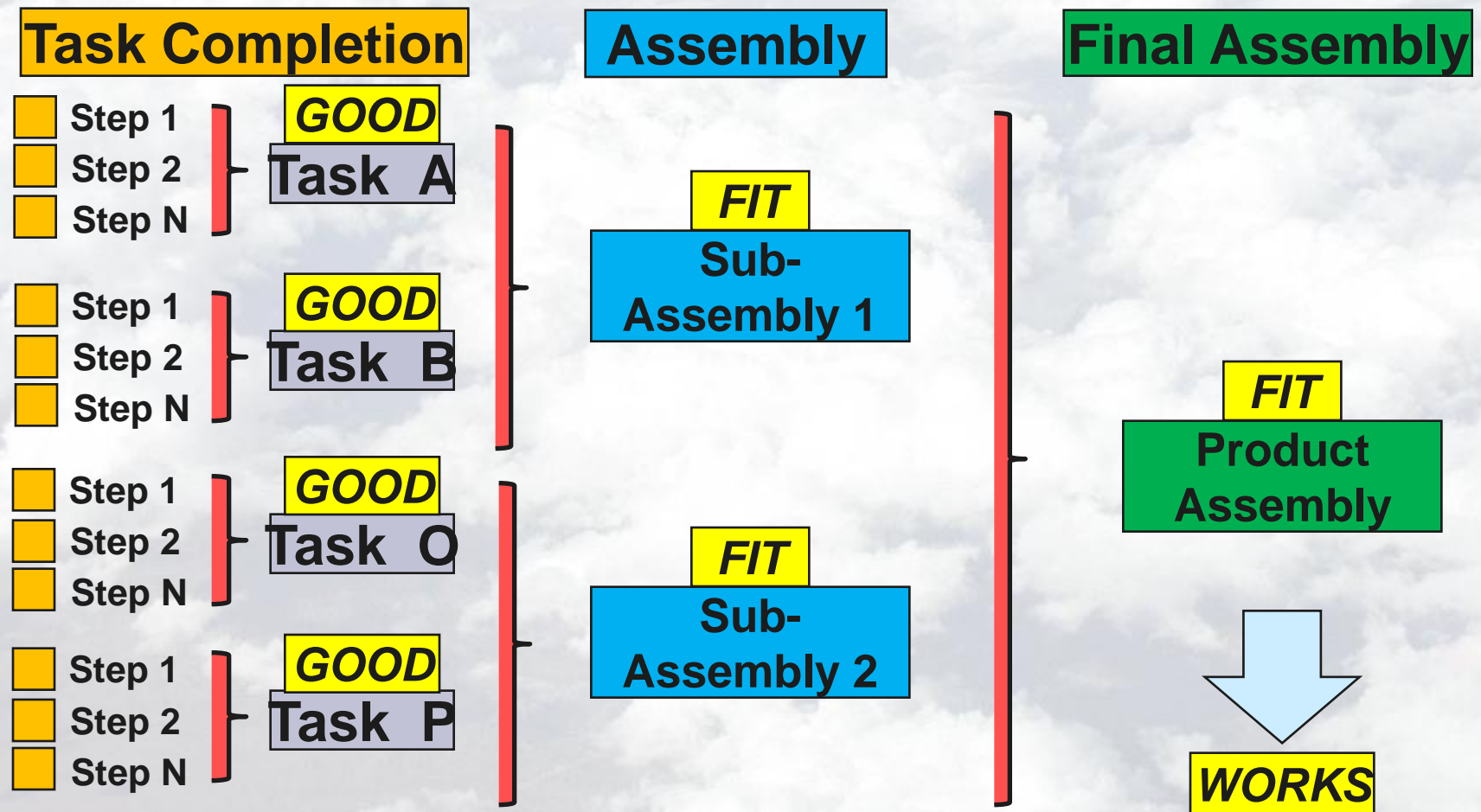
Task Completion

-  Step 1
-  Step 2
-  Step N

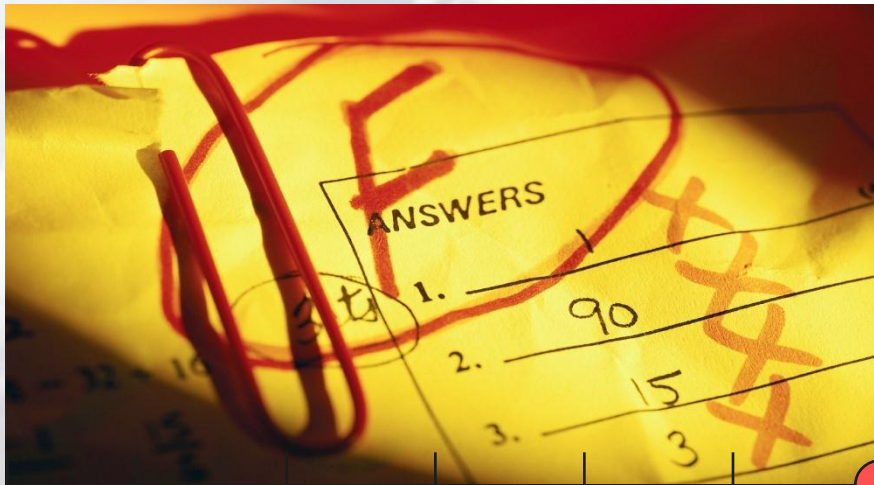
On Ball and Strikes



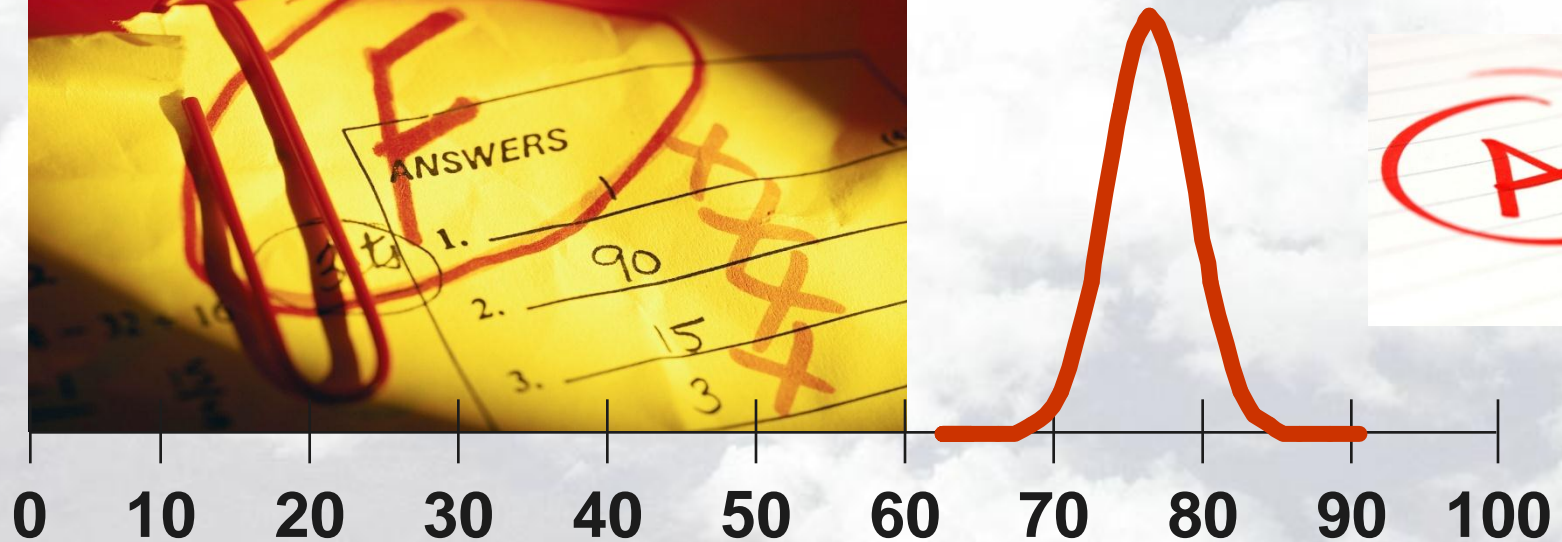
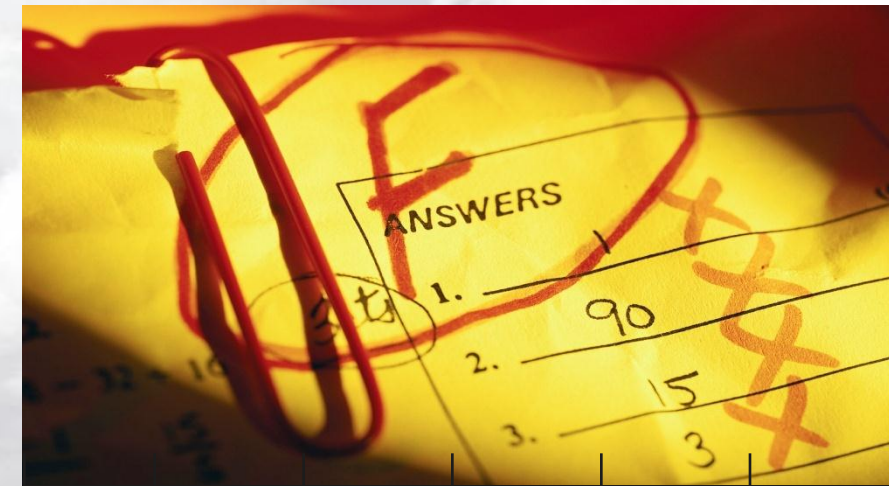
Macro System Model



Task Grades



Task Grades



Interactions, not Actions

One inspiration for challenging the mental model of “good parts” is the 1983 discovery by Ford Motor Company of a dramatic difference in warranty claims between automatic transmissions designed by Ford and built in two locations, one in Batavia, Ohio, the other by Mazda in Japan. Much to the surprise of Ford’s corporate warranty office...

Interactions, not Actions

the number of complaints associated with the erratic shifting of the transmissions produced in Batavia were a factor of 3 greater than the complaints against the transmissions built by Mazda.

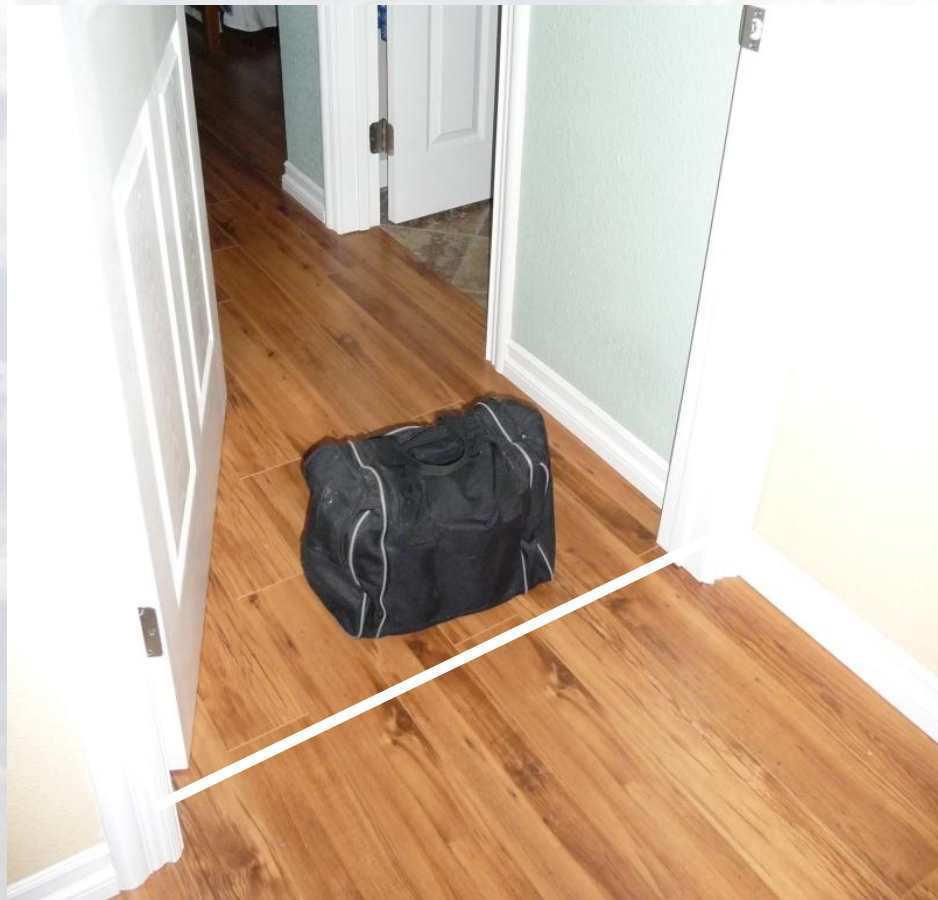
Upon close examination, Ford realized that Mazda's manufacturing focus was to actively manage the gap between the outer diameter...

Interactions, not Actions

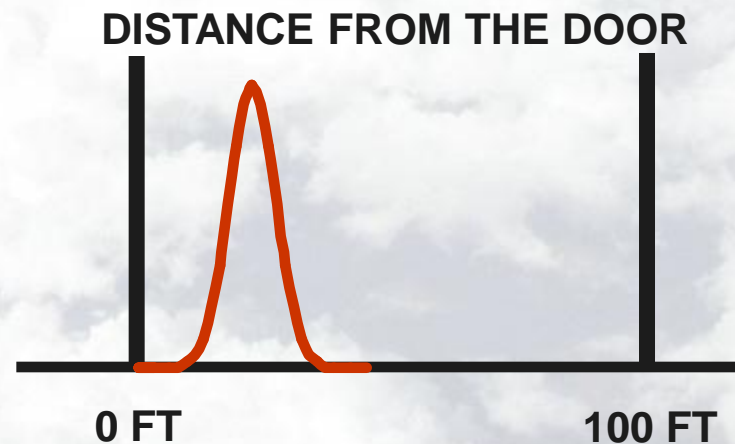
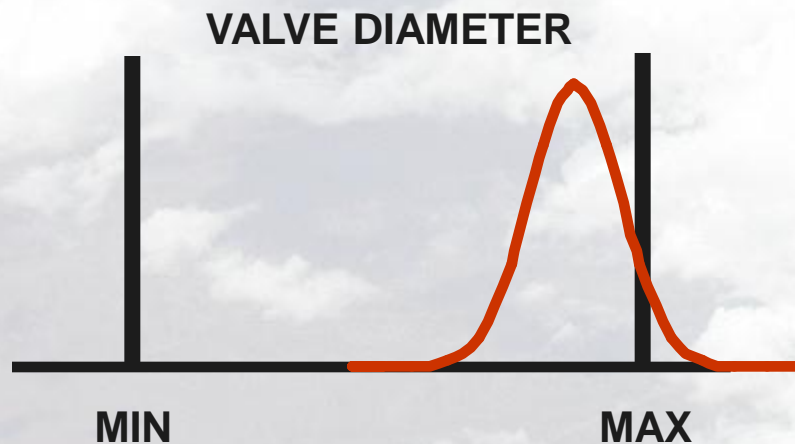
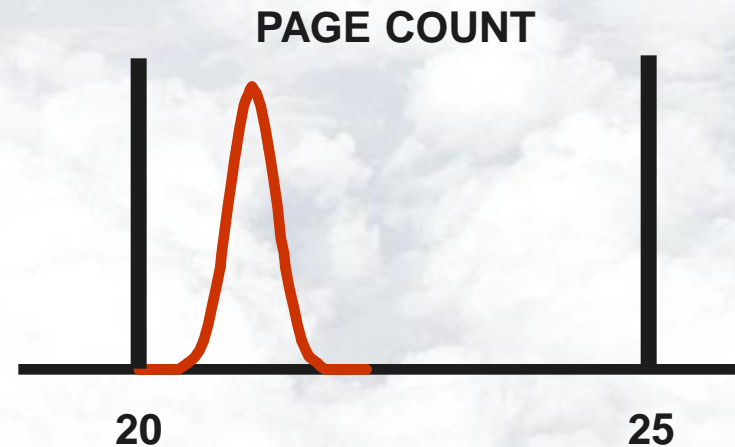
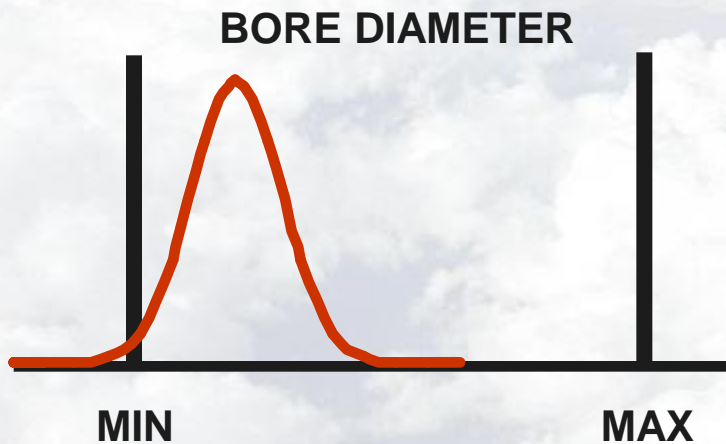
of the valves within the transmissions and the corresponding diameter of the valve bore.

In doing so, Mazda's efforts realized the existence of an ideal gap, resulting from ideal ("target") values for both the bore and valve diameters, with an awareness that variation in gap size matters.

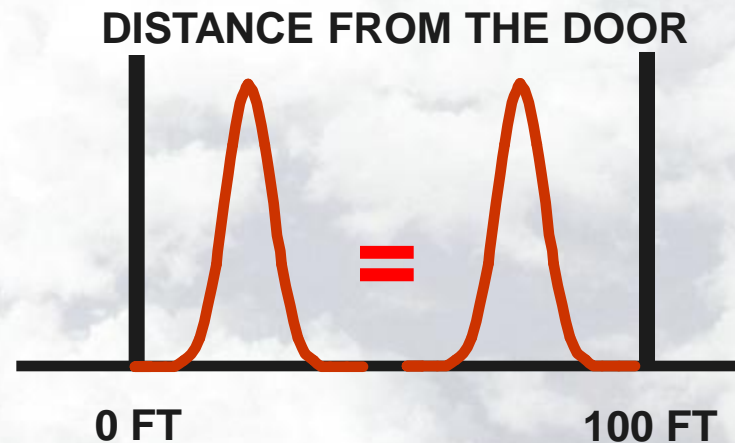
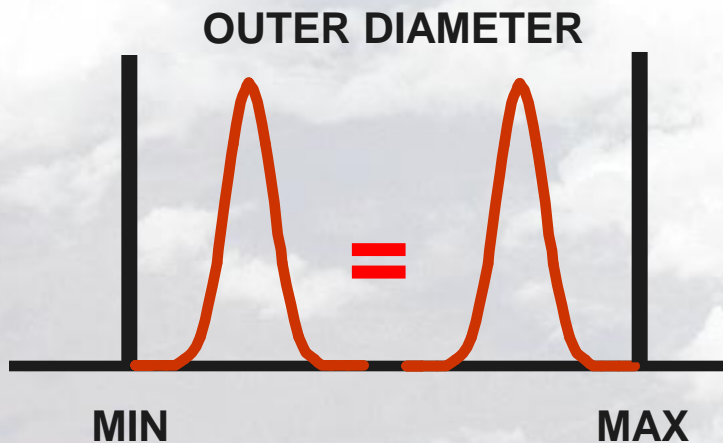
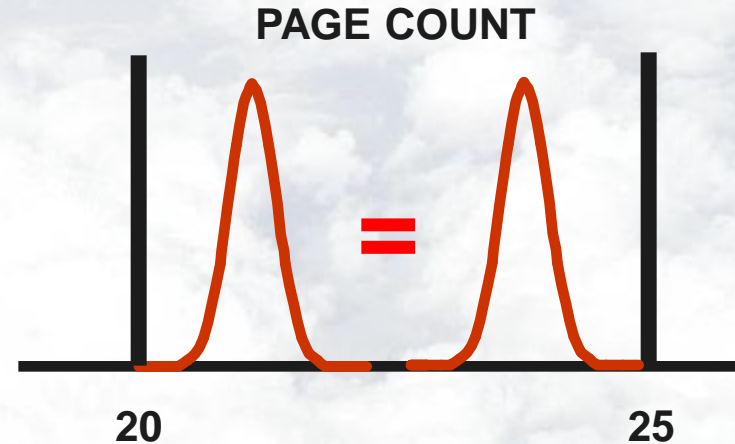
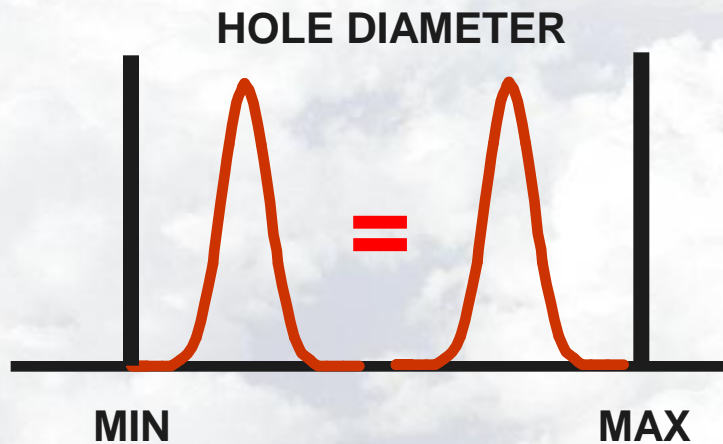
On Bowling Balls



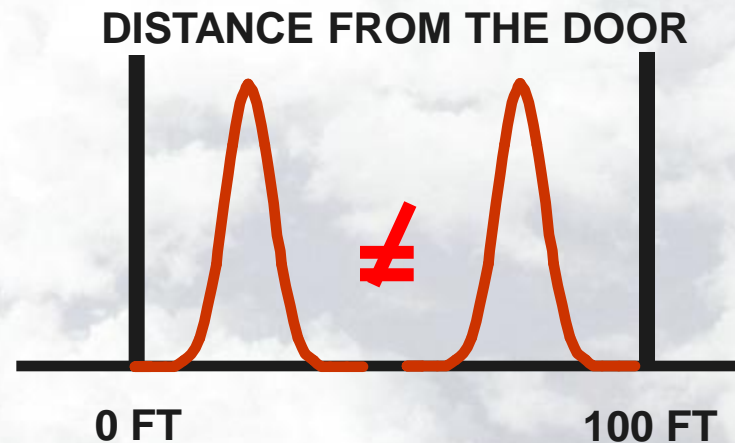
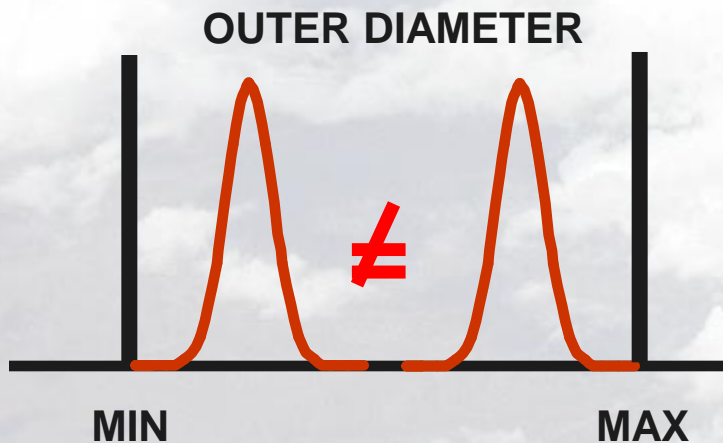
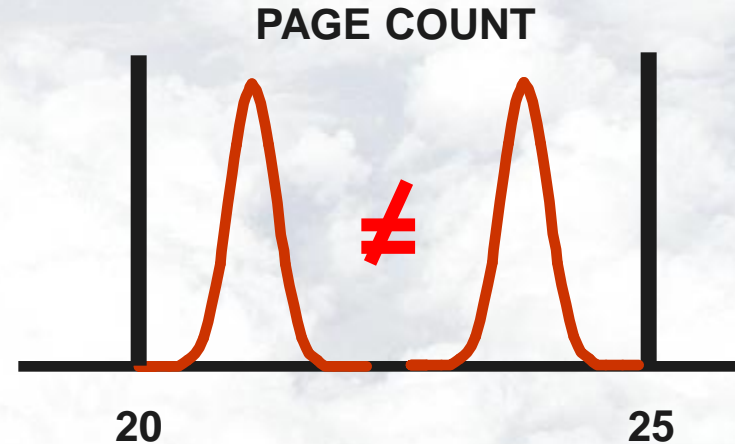
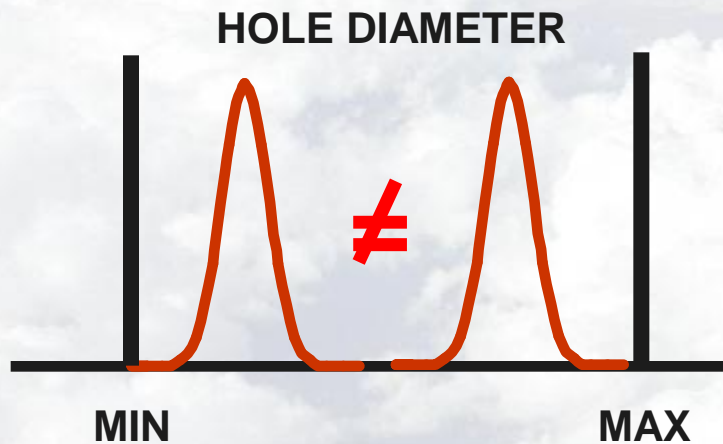
Examples of Action Management



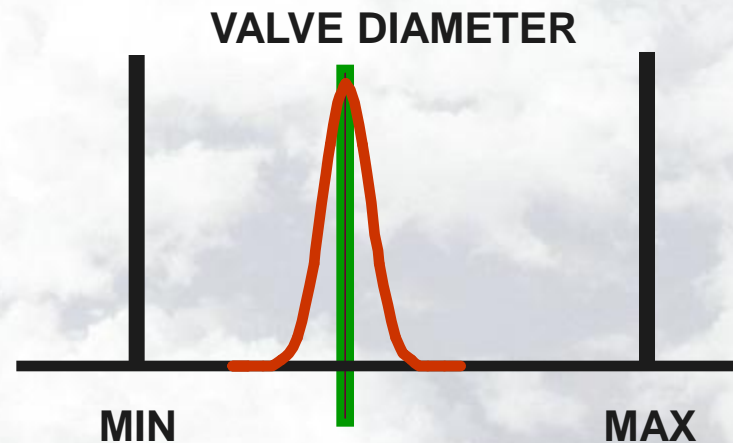
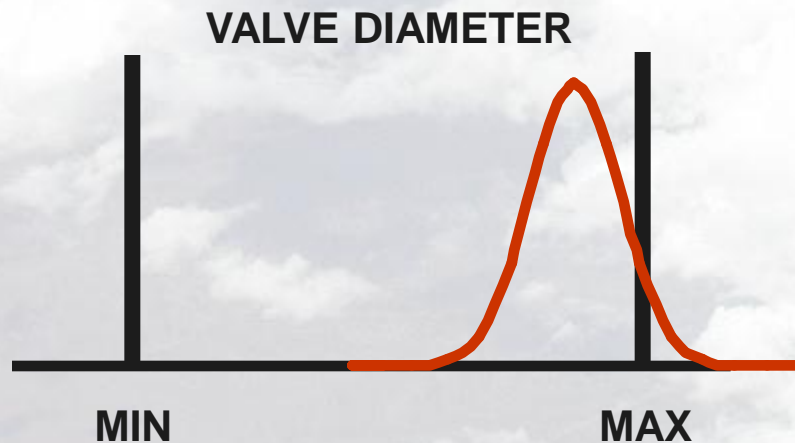
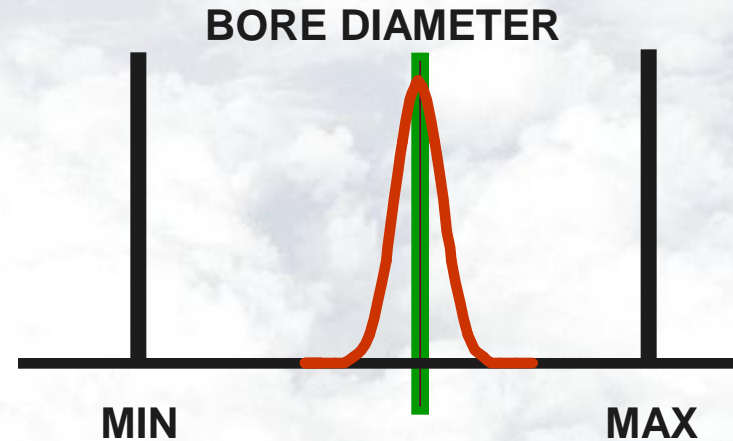
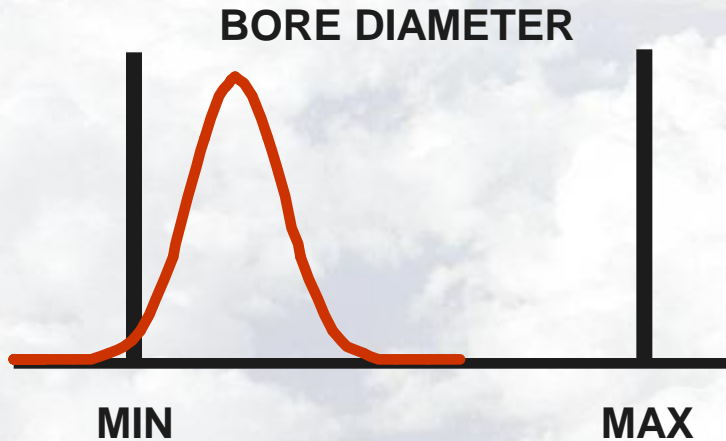
Macro System Model Action Management



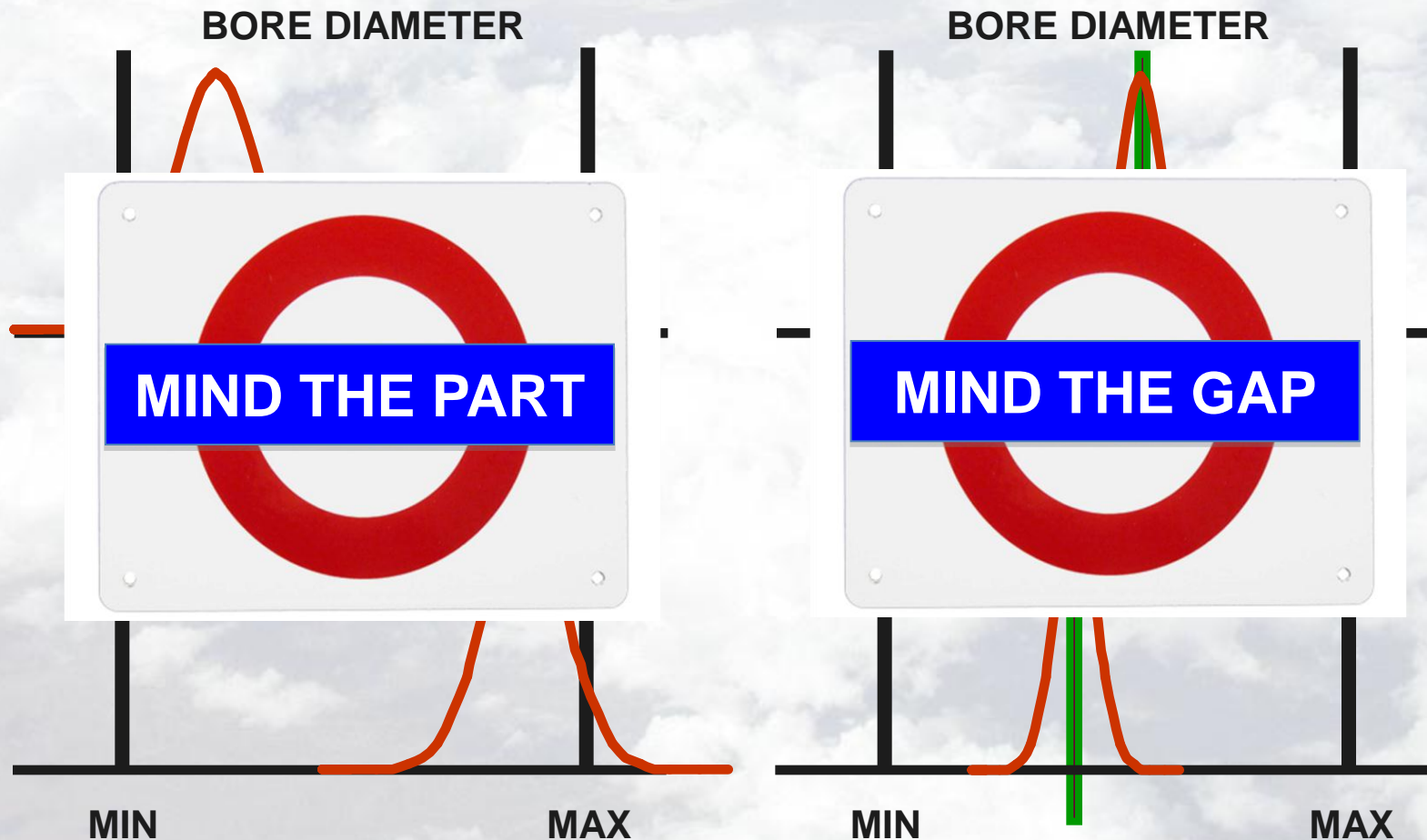
Micro System Model Action Management



Resource Management Contrast



Resource Management Contrast



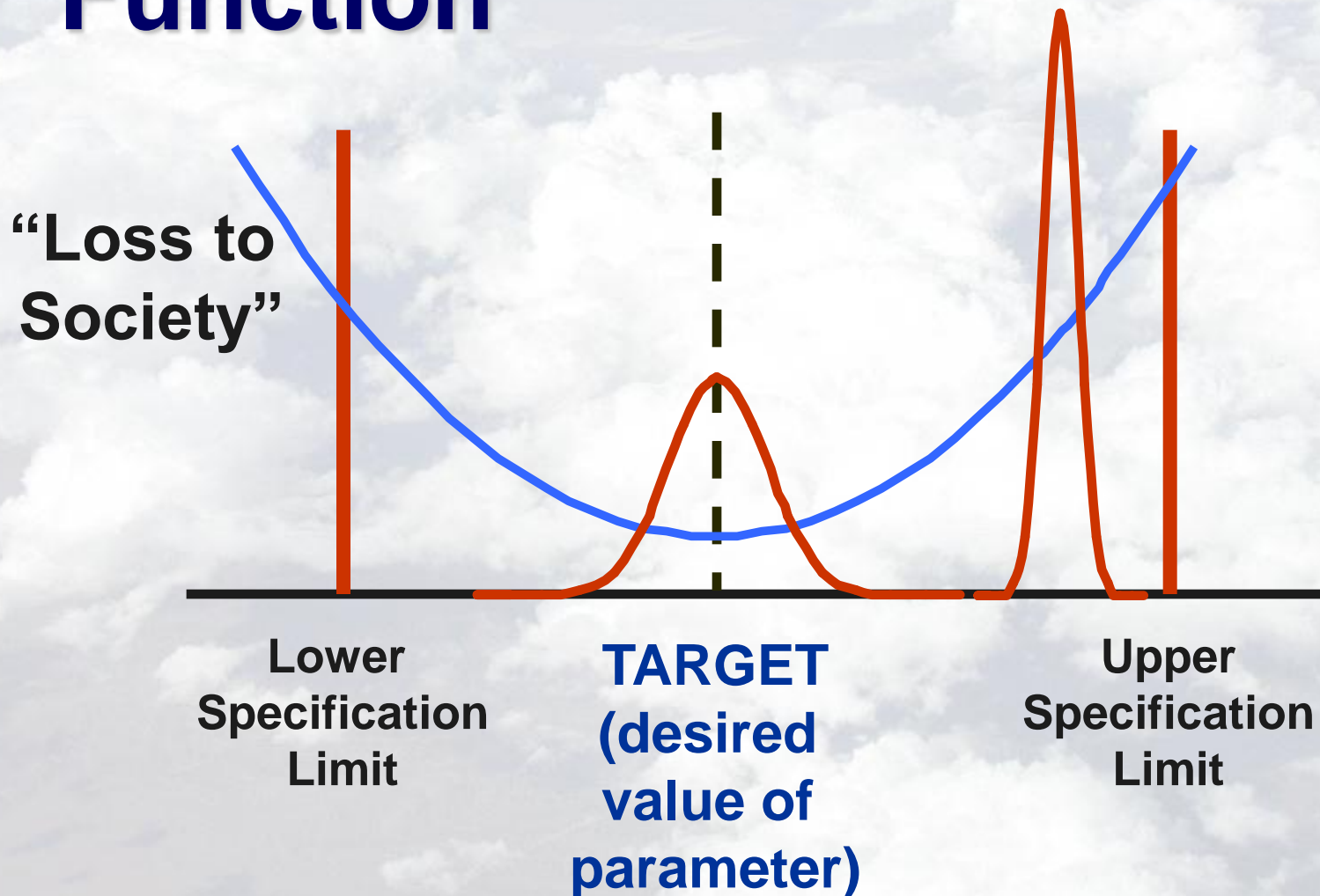
Isogrids



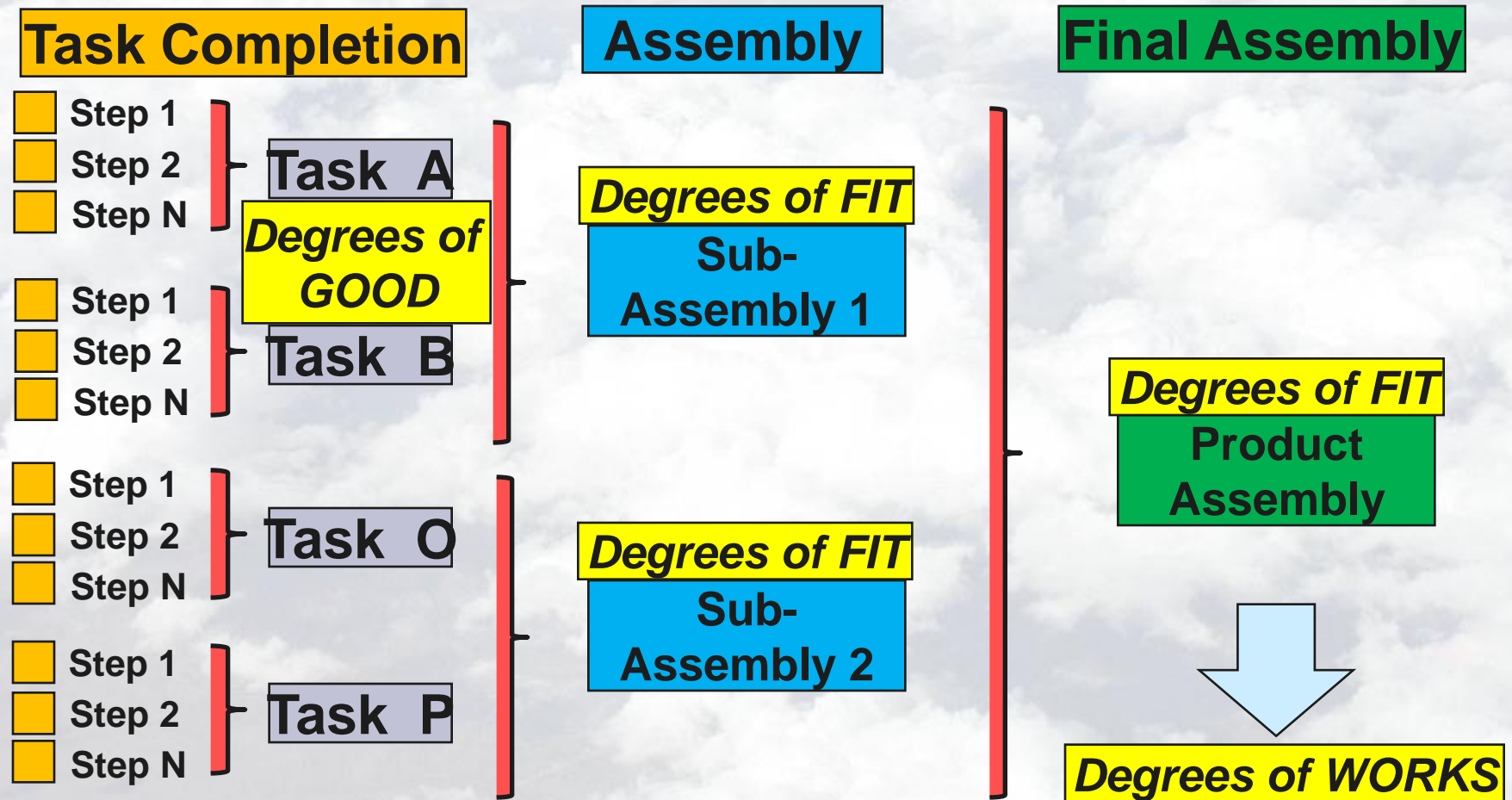
Isogrids



Taguchi's Quality Loss Function



Micro System Model



Modes of Thinking

Modes of Thinking

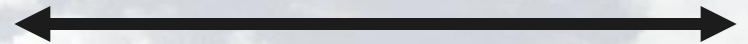
➤ Categories

- Absolutes
- Discrete / Digital
- How many students at UCLA? How many faculty?



➤ Continuum

- Relative
- Wholeness / Analog



Modes of Thinking

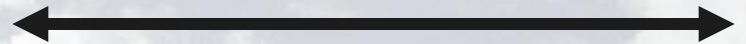
➤ Categories

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➤ Continuum

- Relative
- Wholeness / Analog
- Better/Faster/Cheaper/Smarter/etc.
- Students are different, faculty are different



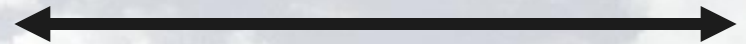
Modes of Thinking

➤ Categories

- Absolutes
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➤ Continuum

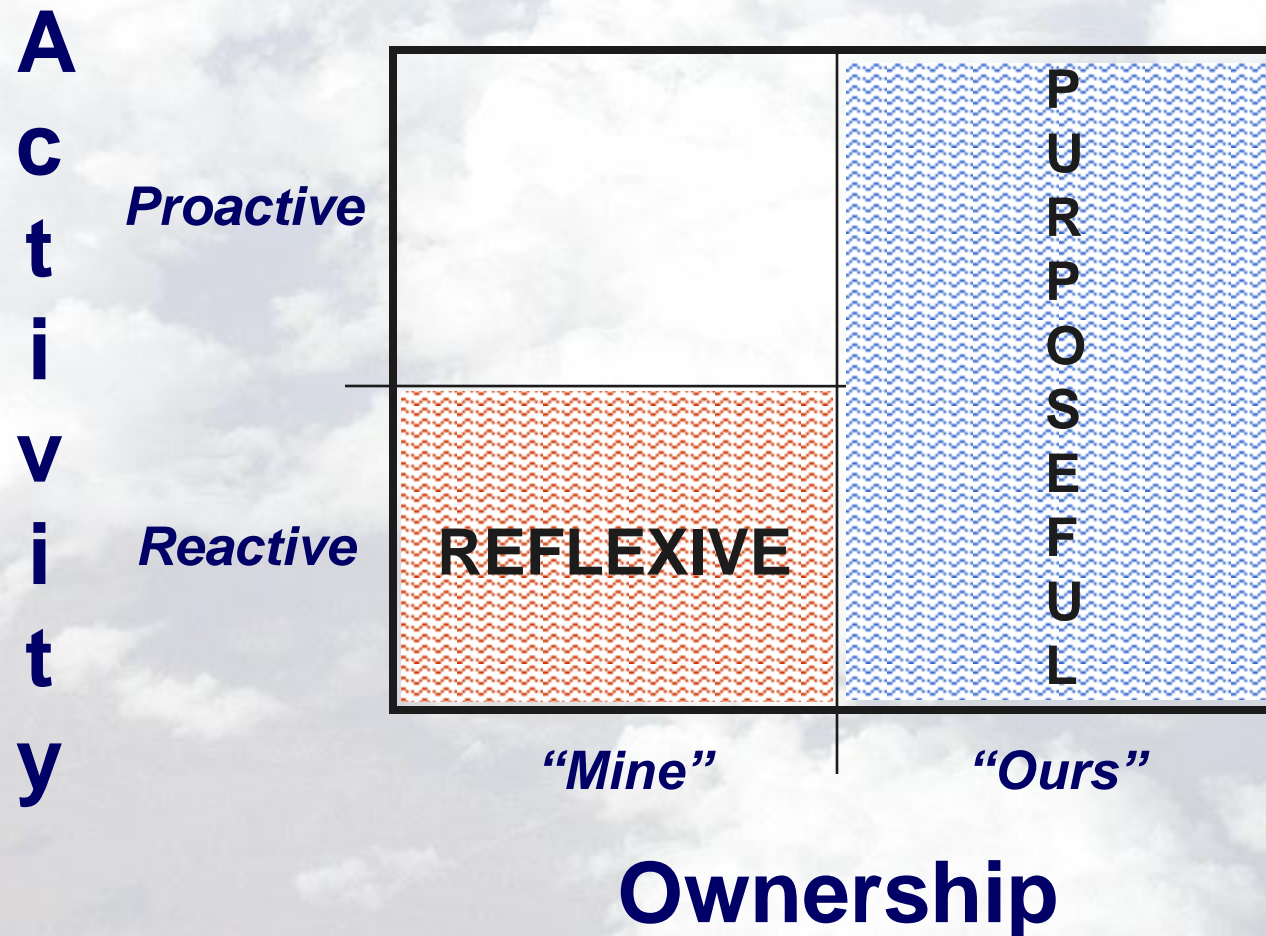
- Relative
- Wholeness / Analog
- Better/Faster/Cheaper/Smarter/etc.
- Students are different, faculty are different





Purposeful Resource Management

Resource Management



Opportunities to Act

Opportunities to Act

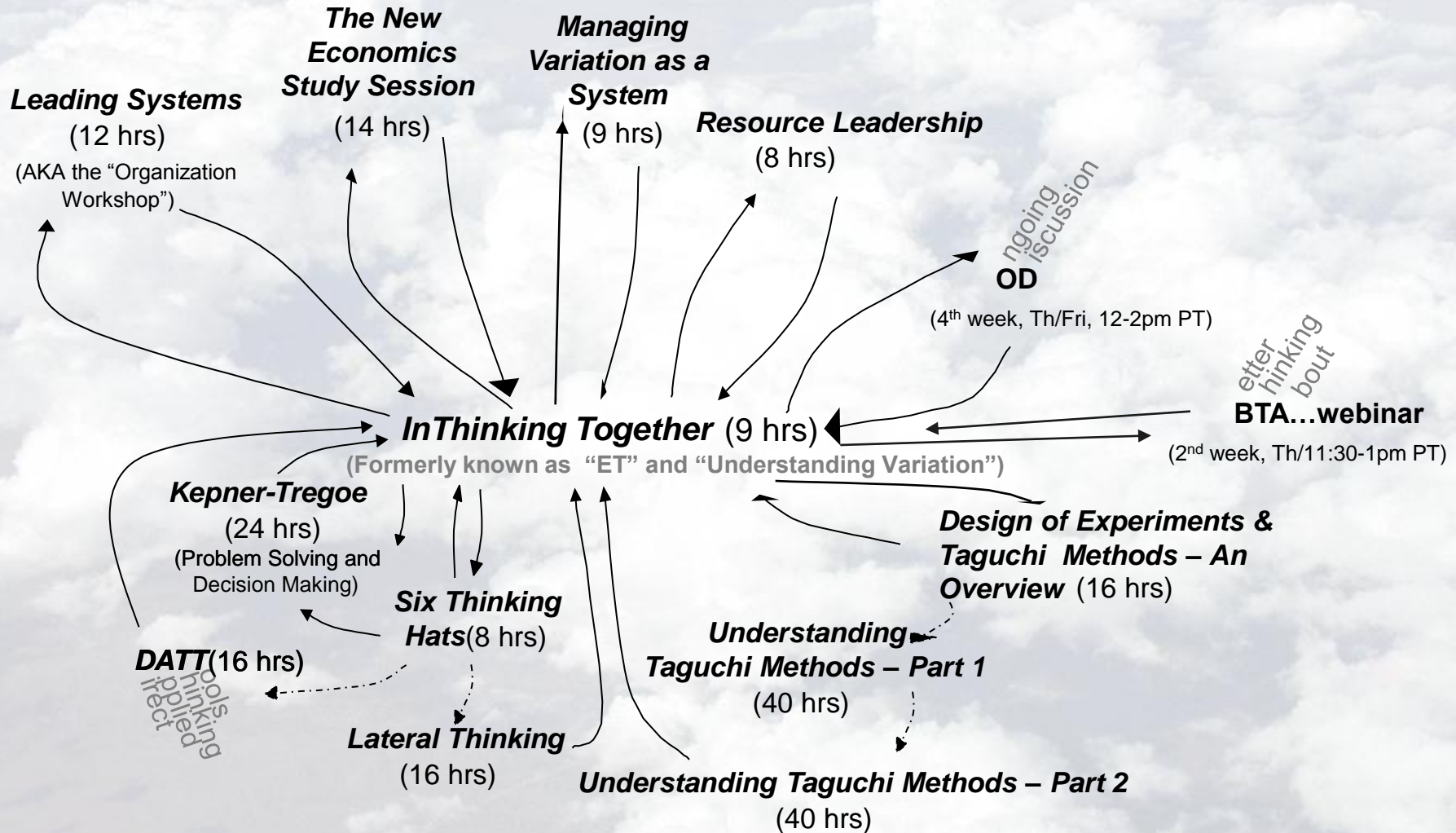
(differences that make a difference)

- Category Thinking vs. Continuum Thinking
- Macro Systems vs. Micro Systems
- Attention to “Good” elements
- Manage interactions, not actions

Opportunities to Think

An InThinking Roadmap

AKA The Hotel California

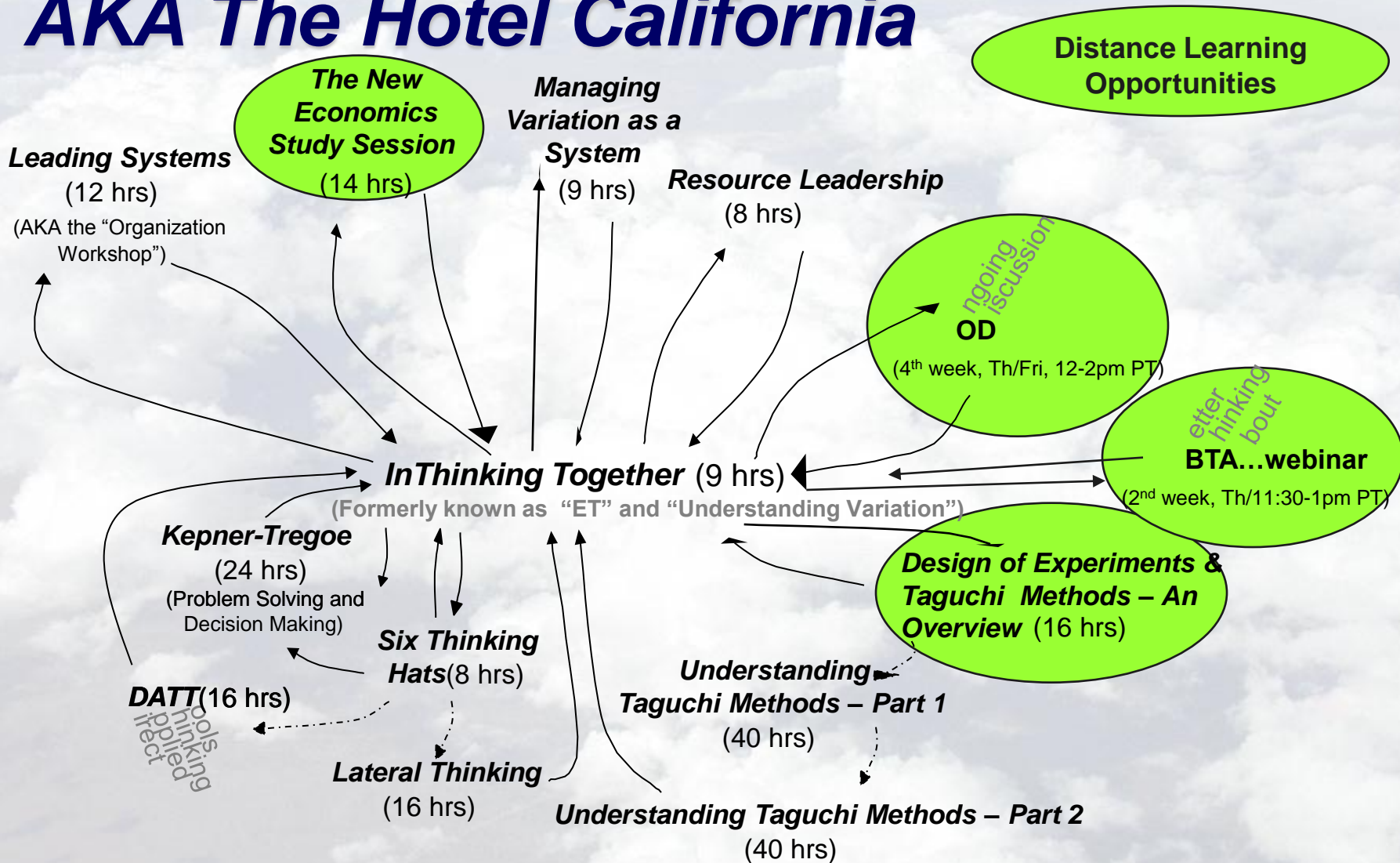


An InThinking Roadmap

TARGET AUDIENCES: Members of management, individual contributors, suppliers, and customers who are providing leadership in InThinking activities. Family members, "members of the community" and students are welcome to attend. "Members of the community" are citizens who are involved full or part time, or in a volunteer capacity, in community related work. Examples include hospital employees, teachers, religious leaders, scouting leaders, and youth sports volunteers.


An InThinking Roadmap

AKA The Hotel California



Prerequisites →

Monthly Announcements



An InThinking Roadmap

Aerojet Rocketdyne

April 2014

Better Thinking About...Web Announcement

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Aim and Stats

Good afternoon from the Los Angeles campus of [Aerojet](#) located in Canoga Park, California, on the western end of Fernando Valley.

In our third session of 2014, Elaine Johnson, from Lake C Oregon, will present on Thursday, April 10th, from 11: new focus area, "Better Thinking About How Literature Sp Business."



Elaine's aim for this presentation is to show that literature business succeed. Literature lets business leaders enter multitude of characters to penetrate their thinking, experie



An InThinking Roadmap

Aerojet Rocketdyne

March 2014

Ongoing Discussion Announcement

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Aim and Stats

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Aerojet Rocketdyne's InThinking Network welcomes Julie Goodfellow, from Abergavenny, Wales and Hugh McAllister, from Henderson, Nevada, to lead our third Ongoing Discussion conference call of 2014 on March 27th and 28th and also our 171st session since we began in January 2000). As for a topic, Julie and Hugh have selected "From My Seat in the Stadium Continued...", in their first time with us as Thought Leaders.

(Please note: daylight saving time is in force in the USA)



Hugh has been a friend and thinking partner since 2008, when he worked in Los Angeles and joined the team for the In2:InThinking Network's

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