

## Systems Thinking & Problem Solving:

### (Understanding Our Most Important Messes)

More on Mental Models, Shared Vision, Team Learning, Dialogue & Skillful Discussion, Ground Rules for Effective Groups, Undiscussables, Facilitating Group Action

MGM-315 05/26/04

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## More on Mental Models

## Mental Models

- We live in a world of self-generating beliefs; we believe
- The data we select are the real data
- Our beliefs are based on real data
- The truth is obvious
- Our beliefs are the truth

## The Ladder of Inference and Creating Reality



## A Ladder of Inference Example

- ☛ My Actions -- Don't hire women
- ☛ My Beliefs -- Women do poor work
- ☛ My Conclusion -- Jane does poor work
- ☛ My Assumptions -- He's chewing her out
- ☛ Meaning I add -- Feedback means criticism
- ☛ My Attention is to -- Boss: "... there are some things you can to improve your performance."
- ☛ I Observe -- Boss: "This is a good work, Jane, but there are some things you can to improve your performance"

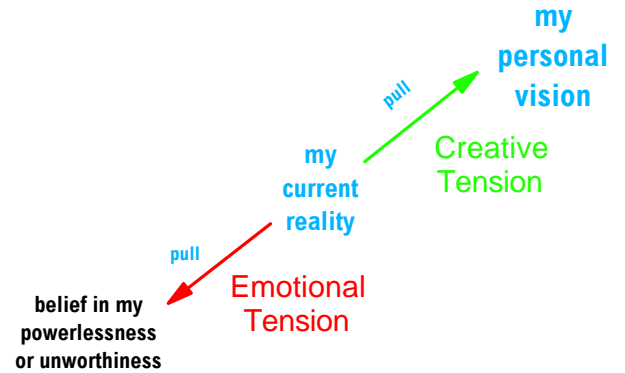
## Two Ladders of Inference

Negative	High-level Inferences	Positive
<b>Jeff did not respect his manager</b> • Assumption: Publicly disagreeing and identifying a weakness in the manager's idea is disrespectful		<b>Jeff respected his manager</b> • Assumption: Publicly disagreeing with his manager about the manager's values shows respect for sharing valid information and allowing informed choices.
	Medium-level Inferences	
<b>Jeff did not support his manager's idea</b> • Assumption: Publicly disagreeing with the manager was not supporting his manager's idea.		<b>Jeff differed with his manager's value of service to customers</b> • Assumption: Jeff's manager does not value improving the speed of customer service.
	Low-level Inferences	
<b>Jeff identified a weakness in his manager's idea.</b> • Assumption: Increasing response time to customers is a weakness in the manager's idea.		<b>Jeff helped his manager see a negative outcome of his manager's idea.</b> • Assumption: Increasing response time to customers is a negative outcome of the manager's idea.
	Observable Behavior	
In the department-wide meeting, Jeff said to his manager, "If my calculations are correct, your idea would increase our response time to customers by five days."		
<small>Roger Schwarz, <i>The Skilled Facilitator</i>, p.88 ... adapted from Chris Argyris, <i>Strategy, Change, and Defensive Routines</i>, 1985</small>		

## Shared Vision

## Personal Mastery

A person's ability to hold creative tension



## Values, Purpose & Vision

### ■ Vision includes\*:

#### → Core Ideology (... preserve the core)

- Core values
- Core purpose (mission)

#### → Envisioned Future (... stimulate progress)

- A major 10-30 year goal, a hoped-for outcome (a BHAG for "Big, Hairy, Audacious Goal")
- "vivid description" of the desired outcome and/or vehicle (company) to convey a picture charged with emotion

### ■ Provides inspiration and guidance for alignment

\* Collins & Porras, "Building Your Company's Vision," *Harvard Business Review*, Sep/Oct 1996

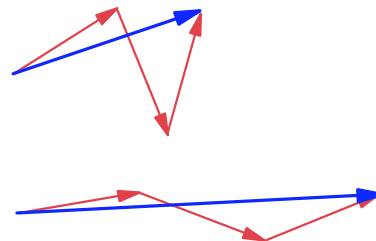
## Team Learning

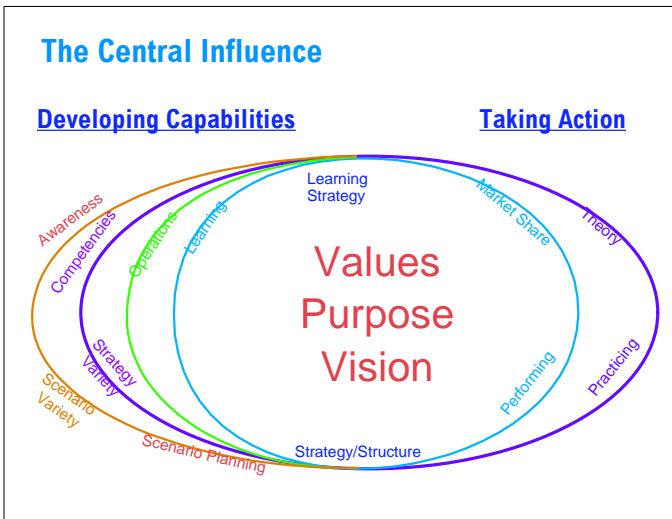
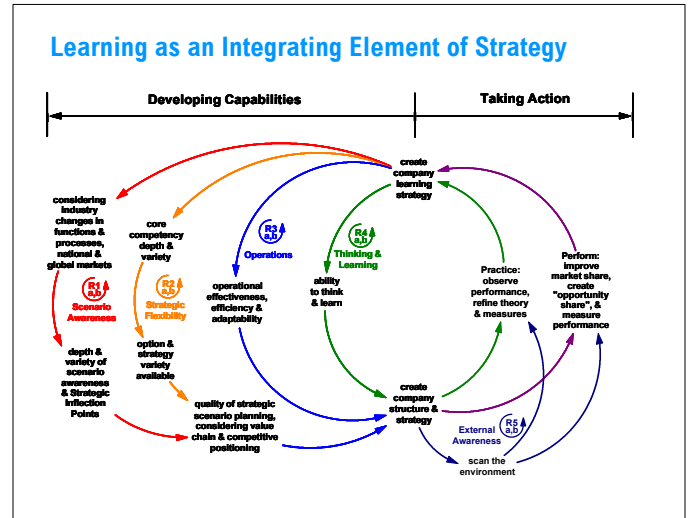
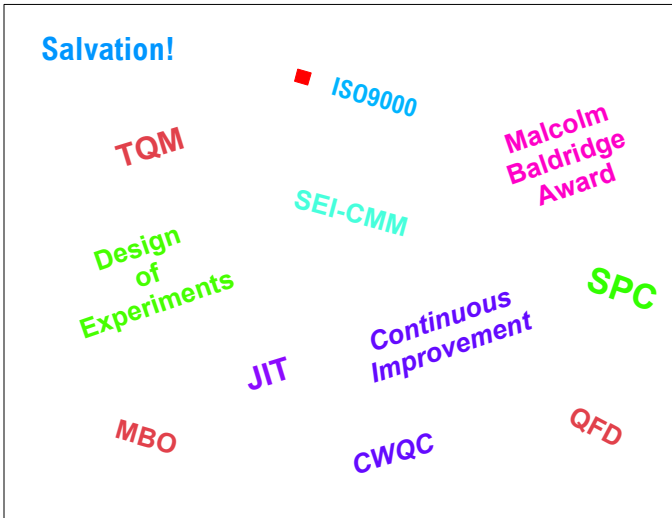
## Team Building

If an organization's structure does not support its vision, all the team building in the world won't help.

## Shared Ideology & Vision

Are we aligned?





### Model I & Model II Theories of Action

from Chris Argyris  
Knowledge for Action, A Guide for Overcoming Barriers to Organizational Change, 1993

- ### Theories of action
- Learning occurs when the mismatch between our intentions and actual consequences
    - - are detected and
    - - we take action to correct the mismatch
  - Argyris has studied **action around difficult problems**
    - problems which are likely to be **embarrassing or threatening**
    - The skills we learned early in life to deal with these problems are protected and rewarded by our culture, yet they fail to produce effective actions.
    - Definition: Effective Action results in reducing problems
- Chris Argyris, Knowledge for Action, A Guide for Overcoming Barriers to Organizational Change, 1993, p. 2

- ### Two types of theories of action
- **Espoused theory**
  - The theory that we as individuals espouse and that comprises our beliefs, attitudes & values.
  - **Theory-in-use**
  - The theory that we as individuals actually employ.
- Argyris' research has found:
- - We customarily design and implement a theory-in-use significantly different from our espoused theory
  - - We are unaware of the inconsistency between the theories we espouse and actually use
- Chris Argyris, Knowledge for Action, A Guide for Overcoming Barriers to Organizational Change, 1993, p. 51

## Model I Theory of Action

### Model I Governing Values

1. Remain in unilateral control.
  2. Maximize winning and minimize losing.
  3. Suppress negative feelings.
  4. Be as rational as possible.
- Using Model I - We craft our positions, evaluations, & attributions in ways that inhibit inquiry into them and inhibit others testing them with their own logic.
  - The consequences of Model I strategies are likely to be defensiveness, misunderstanding, and self-fulfilling and self-sealing processes.

Chris Argyris, *Knowledge for Action, A Guide for Overcoming Barriers to Organizational Change*, 1993, p. 52 and "Good Communication That Blocks Learning, *Harvard Business Review*, July/August 1994

## Organizational Defensive Routines - an example -

### What's Said

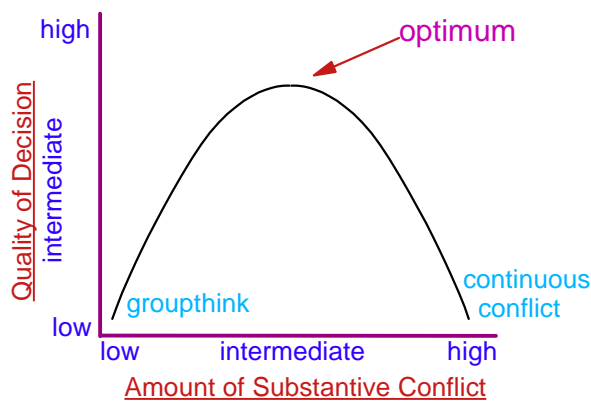
- "Your decision was a good one, and I'm overruling it."
- "You can be proud of your contribution."
- "I feel good about this outcome, and I'm sure you do, too."
- "Now that I've explained everything to your satisfaction, is there anything else that you'd like to talk about?"

### What's Happening

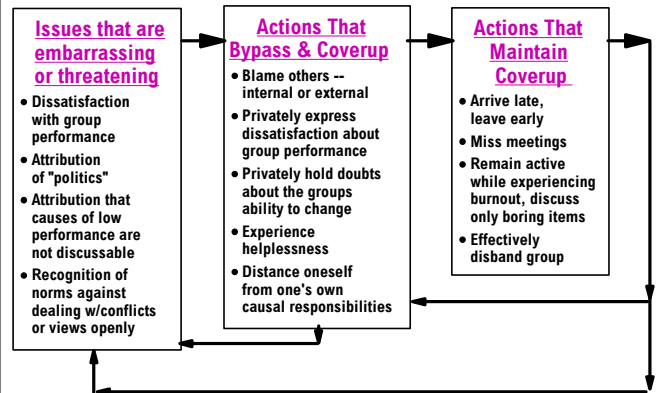
- Send a "mixed message"
- Pretend it is not mixed
- Make the mixed message and the pretense undiscussable
- Make the undiscussability undiscussable

Chris Argyris, "Good Communication That Blocks Learning, *Harvard Business Review*, July/August 1994

## Decision Quality vs. Conflict



## Self-Fueling, Uncorrected Group Processes



Chris Argyris, *Knowledge for Action, A Guide for Overcoming Barriers to Organizational Change*, 1993, p. 44

## Self-Fueling Processes Are Feedback Processes

**"We are the carriers of defensive routines, and organizations are the hosts. Once organizations have been infected, they too become carriers."**

C. Argyris, *Strategy, Change and Defensive Routines*, 1985

### What Does It Lead To?

- How can a team of committed managers with individual IQs above 120 have a collective IQ of 63?

Peter Senge, *The Fifth Discipline*, (1990)

## Discussing the Undiscussable

- "There is an unspoken code of silence in most corporations that conceals the full extent of a corporation's competitive weaknesses.
- But a threat that everyone perceives and no one talks about is far more debilitating to a company than a threat that has been clearly revealed.
- Companies, like people, tend to be at least as sick as their secrets."

Tracy Goss, Richard Pascale, & Anthony Athos, "The Reinvention Roller Coaster: Risking the Present for a Powerful Future," *Harvard Business Review*, Nov-Dec 1993

## Model II Theory of Action for Constructive Conflict

### Model II Governing Values

1. Valid information (observable and testable).
2. Informed choice (full disclosure of data & reasoning).
3. Vigilant monitoring of the implementation of the choice in order to detect and correct error.

Chris Argyris, Knowledge for Action, A Guide for Overcoming Barriers to Organizational Change, 1993, p. 55

## Model II Behavior & Advantages

- **Model II behaviors openly illustrate**
  - - how we reached our evaluations or attributions
  - - how we crafted them to encourage inquiry and testing by others.
- They **minimize anti-learning defensive routines**
- They **facilitate double-loop learning.**
- **Embarrassment and threat are not bypassed and covered up; they are engaged.**

Chris Argyris, Knowledge for Action, A Guide for Overcoming Barriers to Organizational Change, 1993, p. 55

## Dialogue & Skillful Discussion

## The Verbal Interaction Spectrum



*More conventional*

*More attuned to the sources of group thought and bringing them to the surface*

Senge et al., The Fifth Discipline Fieldbook, 1994 p. 386

## Dialogue

- **Principle: Conception and implementation are intimately linked, with a core of common meaning.**
- **Purpose: Maintain a setting where conscious collective mindfulness can be maintained.**

Senge et al., The Fifth Discipline Fieldbook, 1994 p. 358

## Evolution of Dialogue



## Inquiry Protocols

- **Pay attention to my intentions**
    - Be clear on what I want. Do not mislead others.
  - **Balance advocacy with inquiry**
    - Surface and challenge assumptions
  - **Build shared meaning**
    - Clarify meanings. Use language with precision.
  - **Use self-awareness as a resource**
    - What am I thinking, feeling?  
What do I want at this moment?
  - **Explore impasses, the sources of disagreement**
    - Facts, methods, goals, values
- Senge et al., *The Fifth Discipline Fieldbook*, 1994 p. 387

## Ground Rules for Effective Groups

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- **Test assumptions and inferences.**
    - The problem is not that we make inferences, but that we do not realize that we make them or do not check them.
    - Examples:
      - ▶ "I infer you didn't involve me because you don't respect my ability to make a contribution?" Reply might confirm this or it might be: "I didn't realize you were interested."
      - ▶ "You're raising your voice, does that mean you're angry?"
  - **Share all relevant information.**
    - Even points which do not support my preferred position.
    - Share such things as concerns about the sensitivity of the issue, need for assurance that it's OK to discuss an issue, or "I'm apprehensive about sharing this, but willing to be vulnerable."
- Roger Schwarz, *The Skilled Facilitator, Practical Wisdom for Developing Effective Groups*, 1994, p. 75

## Ground Rules (continued)

- **Be specific -- use examples.**
    - Specific examples allow other members to independently evaluate whether the examples are valid illustrations of the general point.
  - **Agree on what important words mean.**
    - Have a common understanding, arrive at consensus
    - Lack of a common understanding is often not discovered, and is at the root of disagreement.
  - **Explain reasons behind statements, questions, and actions.**
    - Helps people more realistically interpret what's being said and done.
- Roger Schwarz, *The Skilled Facilitator, Practical Wisdom for Developing Effective Groups*, 1994, p. 75

## Ground Rules (continued)

- **Focus on interests, not positions.**
    - Allows finding more common ground
  - **Disagree openly with any member of the group.**
    - Required to allow a group to really get at the issues.
  - **Make statements, then invite questions and comments.**
    - Helps surface disagreements so they can be resolved.
  - **Jointly design ways to test disagreements and solutions.**
    - What data would we need to see to resolve the disagreement?
- Roger Schwarz, *The Skilled Facilitator, Practical Wisdom for Developing Effective Groups*, 1994, p. 75

## Ground Rules (continued)

- **Discuss undiscussable issues.**
    - First step can be raising an issue and expressing concern that it may be considered an undiscussable issue. The group can initially explore the concerns without actually discussing the specifics.
  - **Keep the discussion focused.**
    - Test whether others agree that we're off the track.
  - **Do not take cheap shots or otherwise distract the group.**
    - This can leave someone wondering why a comment was made or trying to come up with a witty comeback.
    - Avoid side conversations.
- Roger Schwarz, *The Skilled Facilitator, Practical Wisdom for Developing Effective Groups*, 1994, p. 75

## Ground Rules (continued)

- **All members are expected to participate in all phases of the process.**
  - So the group can benefit from the different points of view.
  - Anyone may, of course, indicate they agree with what's already been said or do not have relevant input on an issue.
- **Exchange relevant information with nongroup members.**
  - The group must decide what information is relevant to share with nongroup members and how to share it.
- **Make decisions by consensus.**
  - In situations of substantive conflict, cooperative environments produce better decisions than competitive environments.

Roger Schwarz, *The Skilled Facilitator, Practical Wisdom for Developing Effective Groups*, 1994, p. 75

## Ground Rules (continued)

- **Do self-critiques.**
  - Takes time, and sometimes uncomfortable, but it is the only way group performance can improve.
  - What ground rules did we use well? Which need improvement? What will we do differently next time.
  - To reduce negative feedback, each person can contribute how he or she could have improved.
- **Others?**
  - Test with the group whether other ground rules are needed.

Roger Schwarz, *The Skilled Facilitator, Practical Wisdom for Developing Effective Groups*, 1994, p. 75

## Undiscussables

Senge et al., *The Fifth Discipline Fieldbook*, 1994 p. 404

## Undiscussables: Issues

- **Important to discuss**
- **Might offend someone or violate an unspoken taboo.**
  
- **We cannot openly**
  - ... discuss some issues.
  - ... or even discuss that we cannot discuss them.

## Undiscussables: Ground Rules

- **Respect the fear that accompanies this exercise.**
- **Reflect and take notice of your initial response to each undiscussable as it is read aloud.**
- **Listen for what is said and not said.**
- **Challenge ideas and assumptions, not people.**
- **Beware of untested attributions, especially of people's motives.**

## Undiscussables: The Process

- **Gather data**
  - Each person writes on three 3"x5" index cards
  - Everyone has same color pencil
  - If someone's behavior is an issue, refer to person by position, not by name.
- **Distribute the cards**
  - Collect and shuffle the cards
  - Deal the cards
  - Put cards face up on the table
- **Discovering common themes**
  - Read and post
  - Cluster into themes
  - Decide which to discuss, pick easy ones first

## Undiscussables: Guiding Questions

- What is the threat behind the undiscussable?
- What mental model has allowed this hidden structure to persist?
- What has kept his issue from being discussed seriously?
- What are the unintended consequences of the undiscussable in the past, present, and future?
- How does this undiscussable support or block our ability to learn as a team?
- How does this undiscussable fit with our espoused vision and values?
- What do we want to do about this undiscussable?

## Facilitating Group Action

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- We need group process to overcome group MPD
- ... that's Multiple Personality Disorder

## Nominal Group Technique (NGT) Steps

- Individuals silently write down their ideas
- Facilitator solicits ideas in round-robin fashion
- Group uses inquiry and advocacy
- Each individual rates the ideas and, given a specific number of votes, uses proportional voting to indicate ranking
- Vote
- Rank orders ideas based on the overall results of the group voting.

## Idea Generation

- Non-interacting NGT is superior to the interacting brainstorming technique.
- ➔ Social inhibition
- ➔ Social loafing
- ➔ Production blocking
- ➔ Entraining of ideas

## Ground Rules for Effective Groups

- Test assumptions and inferences.
- Share all relevant information.
- Focus on interests, not positions.
- Be specific -- use examples.
- Agree on what important words mean.
- Explain reasons behind statements, questions & actions.
- Disagree openly with any member of the group.
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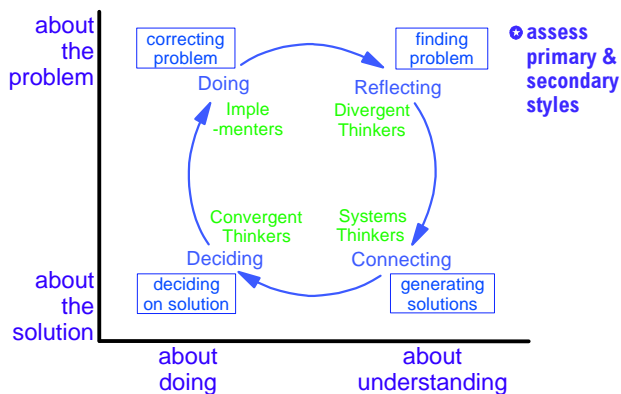
## Ground Rules for Effective Groups (cont'd)

- Jointly design ways to test disagreements & solutions.
- Discuss undiscussable issues.
- Keep the discussion focused.
- Do not take cheap shots or otherwise distract the group.
- All members are expected to participate in all phases of the process.
- Exchange relevant information with nongroup members.
- Make decisions by consensus.
- Do self-critiques.
- Others?

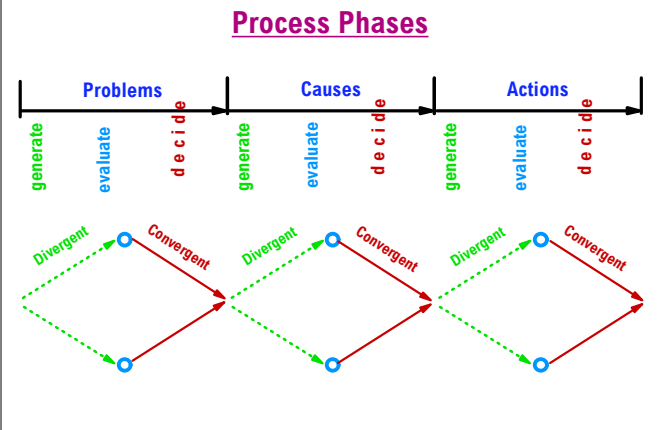
## Use for Success Factors

- What are the five most important factors to make this company more successful???
- values ... principles ... "things to do" ...
- Write on yellow stickies
- Solicit ideas, round robin
- Inquire
- Advocate
- Discuss (balancing advocacy & inquiry)
- Vote
- Rank

## The Wheel of Learning



## The Facilitating Group Action Process



## Action Priority Matrix

- For each action estimate:
  - ➔ Difficulty: Easy or Hard
  - ➔ Impact: Low or High
- Use "Action Priority Matrix" worksheet
- Action by action
  - ➔ Estimate quadrant
  - ➔ Vote on quadrant
  - ➔ Inquiry/Advocacy
  - ➔ Record Consensus
- Vote on action priorities
- Rank action priorities

		Difficulty	
		Easy	Hard
Impact	High		
	Low		