



Learning from experience
Praxis, Practicing
Management, and our Prepare-
Act-Reflect Framework

MIT Sloan School of Management

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Note on this presentation

- I prepared this presentation to share with MIT Sloan staff and faculty
- It highlights some key themes in the teaching materials and the philosophy and motivation behind the course design and *Practicing Management* in general
- It is not fully self-contained, so please put any and all questions to us:
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 - Ashley Chiampo
 - Jonathan Lehrich
 - Nelson Repenning
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What do we mean, “learning from experience”?

Ask an academic and you’ll likely encounter a variety of themes, among them:

- Experiential learning in organizations (learning curves)
- Capabilities and capacities of organizations
- Socio-economic, historical, and other factors that shape experience and learning within organizations, regions, and nations
- Entrepreneurial, creative, networking, and other attributes of organizational members and organizational cultures
- Knowledge management, information technology
- Individual learning
- Organizational learning
- Continuous improvement, process improvement, etc



How about our students' learning here?

A starting point: You can't always trust "naïve" learning from experience. Hence the value of business school

Learning is embedded in a variety of elements of an MIT Sloan education:

- Theories, principles (think **core**)
- Tools, models, methods (taught via assignments, tests, class cases to solve problems, analyze situations, generate new ideas)
- Research that underscores failures of naïve learning, cognitive limits, etc. (makes the case for a more conscious approach to learning)
- “learning to think” (cases and class discussions; teamwork; faculty interactions)
- Vicarious learning (cases, war stories, DILS, etc)
- Experiential learning (orientation, in-class simulations, SIPs, letter labs, internships, extracurricular workshops, more)



Traditional classroom-based instruction must be carefully designed to deliver lasting learning

Do managers and executives actually use the principles and skills they learn in the MBA and executive classroom?

- Much knowledge **remains inert**
- How the manager **processes information** is key
- **More examples**, all making the same point, result in better-learned knowledge and more “portable” knowledge than only a single example (Thompson, Loewenstein, & Gentner, 2000).
- Examples and varied experience are not enough: the manager needs to **compare the examples** and pull out their commonalities.
- Learning must include a combination of **theory, research, and real business practices**.



Study of 500 managers, executives, and consultants, from Leigh Thompson, 2003. *Making the Team: A Guide for Managers (Second Edition)* (Upper Saddle River, New Jersey: Prentice Hall).

See http://www.leighthompson.com/books/MakingtheTeam_2e/toc.htm

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Social science: Retrospective, impressive, *and irrational* (Robyn Dawes, Carnegie Mellon)

In life, even when acting “professionally”, we tend to begin with what happened (consequences), *then* find appropriate causes (antecedents).

Consequently

our “understanding” is largely bogus:

- there are no comparisons
- we rely on memory (for example, “my professional experience”) but that entails biases.

Instead we *should*

- begin with hypothesized antecedents, and allow consequences to occur as they will



See Robyn Dawes, 2001. *Everyday Irrationality: How Pseudo-Scientists, Lunatics, and the Rest of Us Systematically Fail to Think Rationally*. Westview. The chapters entitled “Good stories” and “Connecting ourselves to others, without recourse to a good story” make good reading.

Some errors of judgment

- Overconfidence bias
- Correspondence bias
- Fundamental attribution error
- Halo effect
- False consensus effect
- False uniqueness effect
- Positivity bias
- Negativity bias
- Confirmation bias
- Disconfirmation bias
- Justice bias
- Male bias
- Hot hand fallacy
- Gambler's fallacy
- Self-protective similarity bias
- Hindsight bias
- Self-serving bias
- "Ultimate" self-serving bias
- Optimistic bias
- Pessimistic bias
- Sinister attribution error
- Conjunction fallacy
- Ingroup/outgroup bias
- Positive outcome bias
- Hypothesis-testing bias
- Diagnosticity bias
- Durability bias
- Vulnerability bias
- Self-image bias
- Labeling bias
- Observer bias
- External agency illusion
- Systematic distortion effect
- Intensity bias
- Asymmetric insight illusion
- Just world bias
- Dispositional bias
- Romantic bias
- Clouded judgment effect
- Bias blind spot
- Empathy neglect
- Empathy gaps

Partial list of major topics of studies published since 1985. Krueger, Joachim I. & David C. Funder Jun 2004 "Towards a balanced social psychology: Causes, consequences, and cures for the problem-seeking approach to social behavior and cognition" *Behavioral and Brain Sciences* 27: 03 (313-327). See <http://www.rap.ucr.edu/bbs.pdf>

How to address these challenges?

Management research offers a variety of ideas on which to draw

- We'll look at just **two examples** of antidotes to the problems of learning from experience
 - Encourage double-loop learning
 - Anticipate “predictable surprises”



Problem One: Smart professionals have a hard time learning

- Their body of knowledge can constrain learning
- Rarely fail and do not know how to learn from failure
- **Defensive reasoning** (When challenged, they become very defensive and tend to focus attention away from their behavior to that of others)
- **Doom loops** (self-reinforcing despair loop if they don't perform perfectly or don't get the recognition they seek)
- **Assert criticisms so that validity cannot be checked**
- **Illustrate points without verifiable data**
- **State conclusions with hidden logical connections**
- **Mismatch between what they say and what they do**
 - *Theory of action* "a set of rules that individuals use to design and implement their own behaviors as well as to understand the behavior of others"
 - *Theory in use* is usually:
 1. To remain in unilateral control
 2. To maximize "winning" and minimize "losing"
 3. To suppress negative feelings
 4. To be as "rational" as possible



See Chris Argyris, 1991. "Teaching Smart People How to Learn," *Harvard Business Review*, May-June, pp.99-109.

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Instead, Argyris suggests,

- "...identify the inconsistencies between espoused and actual theories of action."
 - collect valid data, analyze it and constantly test the inferences drawn from the data.



In the classroom (15.990):

A lens on espoused versus enacted theories

Blog every week

What new thing did I try this week?

Here, we're looking for you to consciously try out a new skill, practice, or way of thinking that is inspired by the class, and in particular something that's related to your personal learning goals.

What actually happened?

Here, you'll briefly describe how this new step played out—the task here is to stick to the evidence and data as much as possible.

What do I make of it, and how will I adjust or reinforce my actions or thinking?

Here, you'll interpret what happened, and say what you want to do differently next time or what you want to remember to repeat next time.



Problem Two: We fail to foresee “predictable surprises”

Predictable surprises happen when leaders had all the data and insight they needed to recognize the potential, even the inevitability, of major problems, but failed to respond with effective preventative action

Due to:

- Psychological vulnerabilities
 - self-serving illusions
 - overcommitment
 - tendency to stick with the status quo
 - discounting the future
 - denial that leads to undervaluing risks
 - failure of imagination
- Organizational vulnerabilities
 - structural barriers to the effective collection, processing, and dissemination of information
 - filtering information as it passes up through the hierarchies.
- Political vulnerabilities
 - special interests



Max Bazerman and Michael Watkins, 2004. *Predictable Surprises: The Disasters You Should Have Seen Coming and How to Prevent Them*. HBS Press. See <http://hbswk.hbs.edu/item/4450.html>

Instead, Bazerman suggests,

Try on “the veil of ignorance”

- think of the situation from a naïve, even ignorant point of view
- Try to be conscious of the assumptions you are making about what is possible and, critically, what is *not* possible.
- Treat these as hypotheses to be rigorously challenged and tested, rather than as assumptions that are taken for granted, you reduce the potential to be predictably surprised.



In the classroom (15.990):

Document and return to predicted surprises

In-class exercise

Document predictable surprises at the outset

Retain these notes for reexamination at end

Last year: Speed-dating debriefs



Our overall approach is informed by an understanding of key conditions for learning

- **Many** iterations
- Within the learner's **control**
- Outcome, performance, or other **feedback**
- **Explicit** criteria, expectations, prior beliefs
- Ways to **test**, probe, examine
- **Meaningful**
- **Safety**—psychological, physical
- **Time** to process
- **Guidance** for convergence

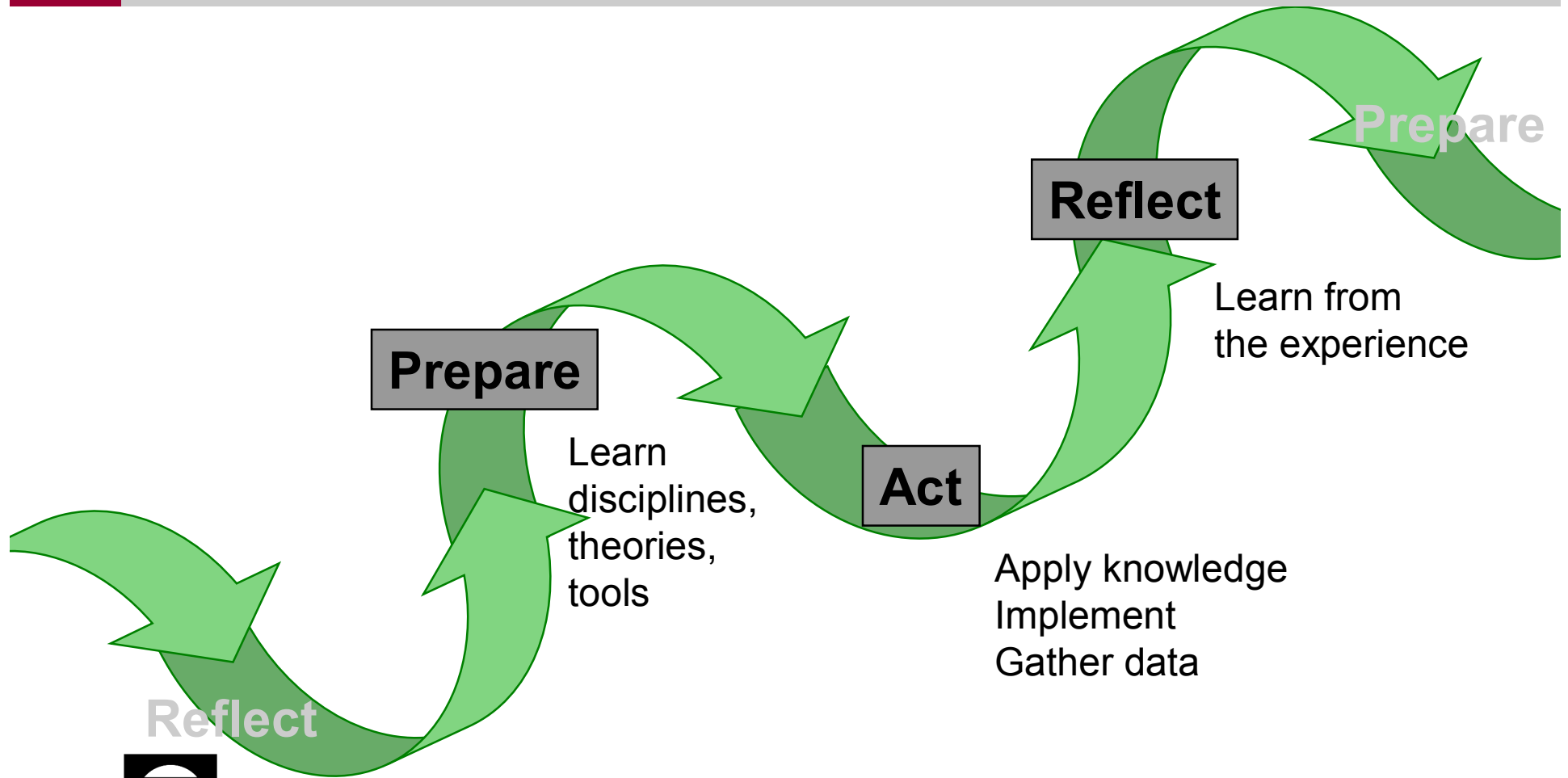


Our goal has been to design learning experiences that

- meet the key criteria for learning
- test scaleable approaches for experiential learning
 - build on, complement what already exists
 - test new techniques and ideas where relevant
- are grounded in research
- fit with the Prepare-Act-Reflect framework
- delight the customer



The *Practicing Management* Framework: Prepare, Act, Reflect



Prepare-Act-Reflect: The Important Elements

Prepare

domain-specific education, project skills

- Learn domain knowledge
- Learn relevant theories, perspectives, tools, and models
- Develop reflection skills
- Generate usable frameworks and templates for data

Act

implementation focus, gather data as you act

- Learn skills by using and applying frameworks, templates, theory, tools, etc. (both content- and process-related)
- Learn domain knowledge as demanded by situation
- Learn by interacting with others
- Generate results (or lack thereof)

Reflect

what to make of this experience

- Learn what you don't know, and want to know, and figure out how to learn more
- Learn by reflecting on the use of theory, frameworks, data templates
- Learn from other students' experiences---peers are key
- Generate new frameworks and templates



A working version of our vision for MIT Sloan students' learning

- **Iterate, experiment** to learn
 - Make the learning real via experiences
 - Students design projects to explore and test ideas
 - Seek and use feedback—from the setting, from peers, from faculty
- Getting things done: **action** embedded in preparation and reflection
 - Apply and understand learning from coursework
 - Engage in work that has an impact while still here
 - Connect bold ideas and lofty goals with practical action
- **Analysis** and **rigor** are central
 - Use tools and theory together with data to address problems, analyze behavior and design next steps



Prepare-act-reflect to learn from experience: Opportunities in the entire MBA program

- Frames an approach to learning that we want all students to understand
 - We present tools, research, and principles to students, who get many opportunities to use them
 - We have been developing varied methods to teach
 - links to other courses, including materials and guest lectures
 - Pilot Program: connecting training, experience, and debrief of our second-year Pilots with Practicing Management themes (facilitation and reflection are two key themes, taught in SIPs)
 - workshops: evening seminar series
 - talks, including to student clubs
 - second-year full-semester lab elective (990)
 - “Deep dive” integrated learning experience
- online resources, workbooks, etc



More on 15.990

Key themes in the “Practicing Management” lab course

Learn from iterating

- Learning from what worked and what didn't

Learn from your own experiences

- Writing things down!

Use the class as a learning lab

- Learn from peers, faculty, others

Key themes, within which you choose specifics

- Feedback
- Building shared commitment
- Getting results at every step



More on 15.990

“Practicing Management” lab course

Teaching innovations

- Class clinics: Use the class for generating ideas to address problems, tap opportunities as they happen
- Students give each other thoughtful feedback
- We work *in class* to plan and reflect every week
- Students write as they go
- Teams generate and share lessons learned

Syllabus on Stellar

A sample of key ideas in the course

- One tool is the *after-action review*
- One framework we draw on is *evidence-based management*



Sample from 990: The after action review

A practice borrowed from the army



Sample from 990:

Four sets of questions frame an after-action review

- What were our intended results? What did we think would happen?
- What were our actual results? What did happen?
- What caused our results? What were the differences between intended and actual?
- What will we sustain? What will we improve?



Sample from 990:

Setting up for learning is just as important

In the Army, the practice works best when everybody prepares by learning:

- The task
 - what actions subordinate units must take
- The purpose
 - why the task is important
- The commander's intent
 - what the senior leader is thinking, explained so that subordinates can pursue his or her goals even if events don't unfold as expected
- The end state
 - what the desired result is

What does this entail, in turn?



- Enough time beforehand for this learning
- A culture of sharing and talking about goals, intent, etc

Sample from 990:

Team ground rules for AARs support better learning

- Participate!
- No thin skins
- Leave your stripes at the door
- Take notes
- Focus on **our** issues, not the issues of those above us
- Absolute candor
 - Acknowledge your own mistakes
 - Say out loud what worked and what didn't
- Focus on improving performance, not placing blame
- Address thinking, assumptions
- 2 or 3 ideas at a time, no more



Sample from 990:

Key AAR ideas, practices

- Test your theories via **many cycles** of plan, prepare, execute, AAR
- **Rehearsal** is key
- **Brief-back** is integrated at every step
- Focus on formulating **testable hypotheses**
- Build your **library** of tactics, techniques, procedures
- Work towards “**doctrine**”



Sample from 990:

Questions to ask yourselves

How can we learn better?

- What do you do to foster learning?
- Can we share, borrow practices?
- Can we make these ideas our own (see next page for an example from firefighters)?

- What are the constraints, barriers to improving the learning process?





Sample from 990:

The Chainsaw AAR

"Talk with the troops...in the long run it is what we do not say that will destroy us." -- General George S. Patton

It's 0'dark thirty. The crew has worked the fire for sixteen hours straight. No one has eaten a hot meal for days and oh yeah, you might as well be cold.

No time for the After Action Review? -- Think again

It's time to bust out the ...**CHAINSAW AAR**

The idea behind the Chainsaw AAR is simple; **SPEED**. When you need to get an After Action Review done quickly try this simple format.

1. Have the team form a loose circle.
2. Start with a single team member and ask one of these questions:
 - What is one thing that went well on this shift?**
 - What is one thing that went bad on this shift?**
 - What is one thing you would do different next time?**
 - What is one thing you learned today?**
3. Continue around the circle until everyone has had a chance. It may be necessary to place a time limit on each individual (i.e. 30 seconds).
4. Avoid unnecessary discussion (dinner is waiting).
5. Note the comments for future discussion.

Remember to use this format as a temporary fix, it shouldn't replace the full AAR.



Sample from 990: After-Action Review - Further resources

Darling, Marilyn, Charles Parry and Joseph Moore, 2005. Learning in the thick of it. *Harvard Business Review*: July-Aug. Available at http://www.fireleadership.gov/documents/Learning_AAR.pdf

The USAID After-Action Review Technical Guidance. Available at <http://knowledge.usaid.gov/aar.htm>. To download the booklet: http://pdf.usaid.gov/pdf_docs/PNADF360.pdf

Collison, Chris and Geoff Parcell. 2001. *Learning to Fly: Practical Lessons from one of the World's Leading Knowledge Companies*. Capstone. Also see <http://www.chriscollison.com/l2f/>
For a short piece on leader behaviors that encourage knowledge-sharing: <http://www.chriscollison.com/l2f/documents/KMleadership.doc>



Sample from 990: Evidence-Based Management

- Grounded in research (e.g. Pfeffer, Sutton on organizations)
- Draws together themes and experience from a variety of fields (e.g. healthcare)
- Follows five basic principles:
 - Face the hard facts; build a culture of telling the truth
 - Be committed to *fact-based* decision making
 - Treat your organization as an unfinished prototype
 - Look for the risks and drawbacks in what people recommend
 - Avoid basing decisions on
 - untested but strongly held beliefs,
 - what you have done in the past, or
 - uncritical "benchmarking" of what winners do

<http://www.evidence-basedmanagement.com/>



What I tell prospective students

MIT is about learning to think

and

doing things

and

pairing the two



Our goal for every student

We expect our MIT Sloan
students to change the world.
And to start while you are here!



Join us! Learn more!

- We are testing ideas, trying new innovations, and partnering with faculty, staff, students, alumni, and others to refine
 - Our explanation and framing of the core ideas
 - The set of learning experiences we offer students
 - The grounding in research and practice
 - And more....

