

WHAT ARE THEY THINKING?



Dr. Allison Rossett

Professor Emerita, Educational Technology
San Diego State University

Strategies for boosting

critical

thinking

We want this.



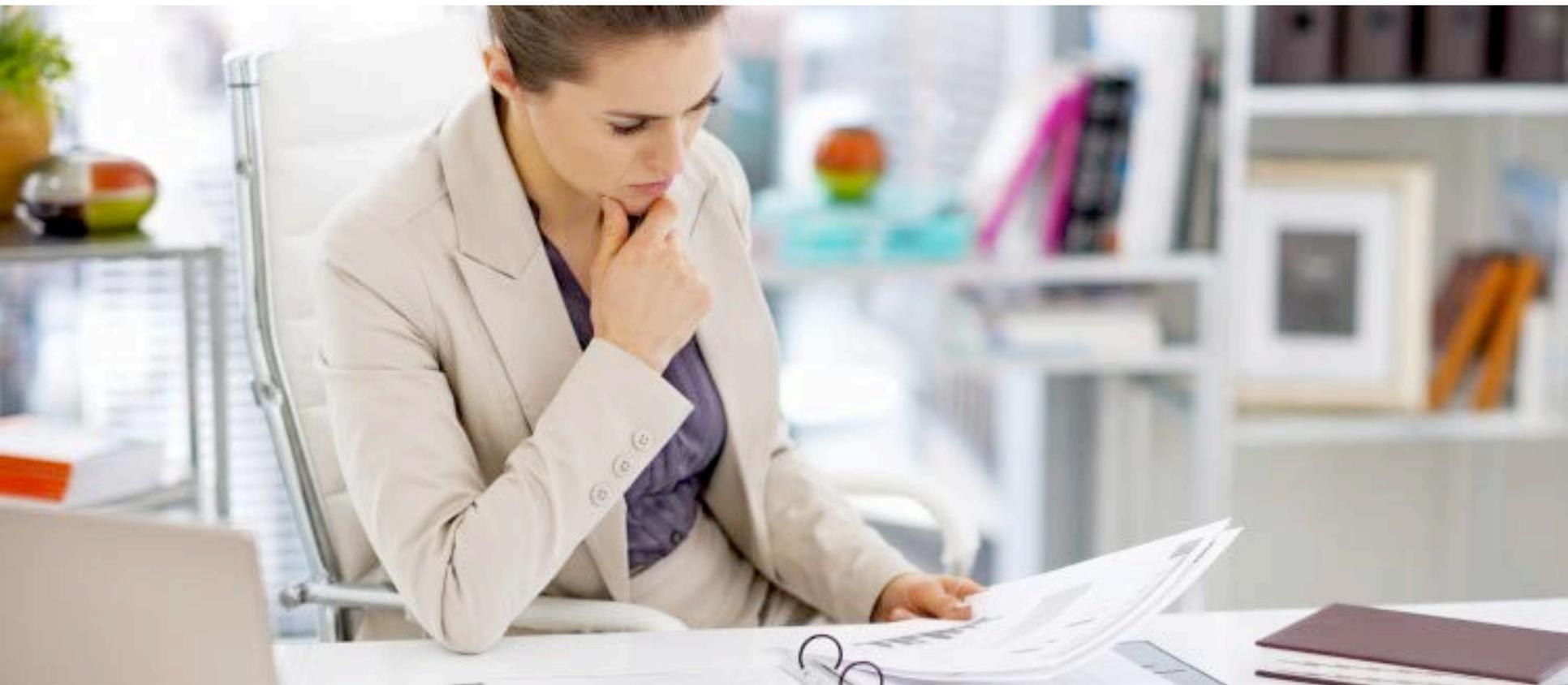
This.



This.



This.



And this too.



Instead we get this



This.

**THE YES MEN
FIX THE WORLD**

IN US THEATERS OCTOBER 7!

HD TRAILER **PLAY TRAILER** SHARE TRAILER

The image is a promotional graphic for the movie 'The Yes Men Fix the World'. It features two men in suits, one on the left and one on the right, both smiling and holding up copies of 'The New York Times' newspaper. The man on the left's newspaper has the headline 'CLIMATE CRISIS FIXED!' and the man on the right's has 'IRAQ WAR ENDS'. In the center, a video player shows a scene from the movie with two men in suits addressing a crowd. Below the video player are three buttons: 'HD TRAILER', 'PLAY TRAILER', and 'SHARE TRAILER'. The background is a stylized cityscape with silhouettes of people and a yellow fish.

And this too.



*“YOU CANNOT SOLVE A PROBLEM IF YOU ARE
THINKING AT THE SAME LEVEL YOU WERE
WHEN YOU CREATED THE PROBLEM.”*

Albert Einstein

Critical thinking is what?



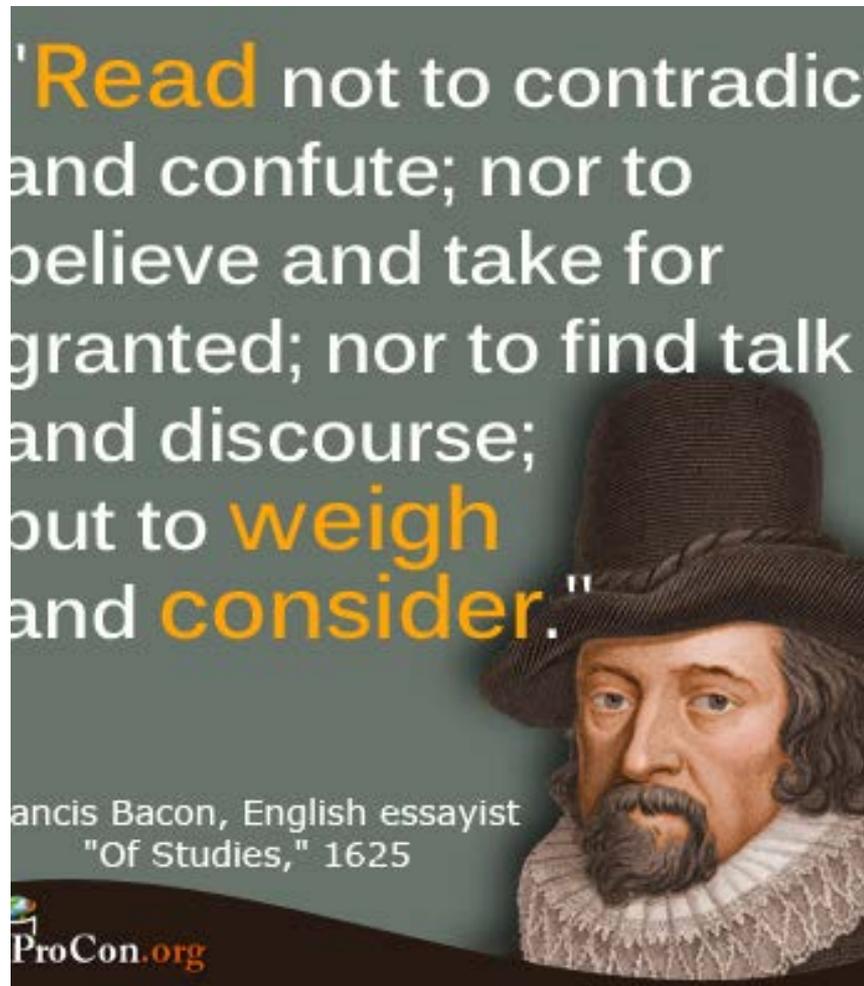
Critical thinking is self-guided, self-disciplined thinking which attempts to reason at the highest level of quality in a fair-minded way. Critical thinkers strive to diminish the power of their biases.

The word "critical" derives etymologically from two Greek roots: "kriticos" (meaning discerning judgment) and "kriterion" (meaning standards). Etymologically, then, the word implies the development of "discerning judgment based on standards."

**Let's stipulate.
Critical thinking is highly desirable.
USDOL says it is the raw material of
workplace success.**



Valued, but not systematically sought



Nearly all employers surveyed (**93 percent**) say that "a demonstrated capacity to **think critically, communicate clearly, and solve complex problems** is more important than [a candidate's] **undergraduate major.**"

[AACU, 2013]

Critical thinking:

Not sleep-walking through work.

Instead, actively analyzing,
evaluating, using and communicating information
to make standards-based decisions
in uncertain circumstances.

Not just a DAU issue

- Professors think they know about critical thinking, but classes do not reflect it [Elder, 2004]
- 4 C's of great employees: communicate; collaborate; create and think critically. 2100 executives said critical thinking was most important and biggest need. [AMA, 2010]
- Survey of 300 US employers: 31% of people lack critical thinking; 81% respondents want more development for their people in this area [AACU, 2010]
- Consumers don't think critically. Reebok forced to refund millions. Ads promised that their sneaker was more effective at toning butt and calves. No evidence, but still buyers believed. What were they thinking? (weren't) [Butler, 2012]

Critical thinking can be taught, it can be learned:

Studies have found that it can be boosted through training and development.

[Fong, Krantz, & Niskett, 1986;
Moreno et al., 2007;
Helmsdingen et al., 2010]

Developing critical thinking

Provide

1. **What** it looks like at work 
2. **When** you would do it
3. **How** to move your organization and people towards systematic critical thinking

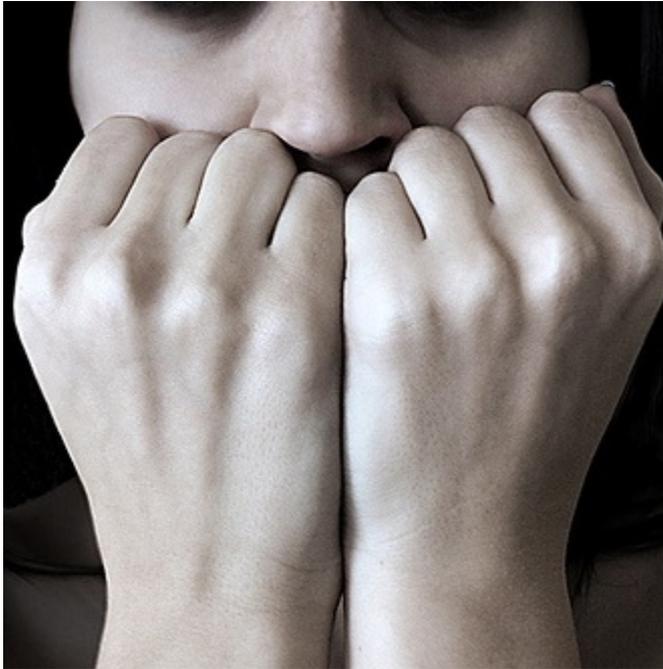
What critical thinking looks like at work

Critical thinkers in the workplace



- Are humble, patient
- Seek policy, precedent, expertise
- Weigh data
- Identify what is known, unknown
- Use multiple sources
- Ask questions
- Point to and use criteria, standards, policies

Critical thinkers in the workplace



- Distinguish fact from opinion
- Recognize biases, assumptions, own, others
- Consider own and others' agendas
- Balance logic, emotion
- Adjust positions in light of evidence
- Are active when uncertain

*“IT IS BETTER TO KNOW SOME OF THE
QUESTIONS THAN ALL OF THE ANSWERS.”*

James Thurber

Developing critical thinking

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When to think critically

Suggest opportunities when critical thinking would advance goals

- Look to subject matter experts for possibilities
- Look to line leaders
- What tasks, documents, errors, interactions require critical thinking?



Sample opportunities for critical thinking

- Many unknowns
- Limited information
- Volatile circumstances
- Strong opinions, competing agenda
- Several possible answers
- History of snafus



Must help pilots think not just about what critical thinking is, but also when you might



Critical thinking for teen drivers

Where are the danger spots? Data on accidents nearby? How do my parents avoid the risks? Should I pack car with pals who want a ride home?



*“IF I HAD EIGHT HOURS TO CHOP DOWN A TREE,
I’D SPEND SIX SHARPENING MY AX.”*

Abraham Lincoln

Developing critical thinking

Provide

1. **What** it looks like at work
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How to develop critical thinkers

**Critical thinking can be taught, it can
be learned, but . . .**

**“Critical thinking cannot be taught in a day or even
in a course, it’s an applied skill.” [Kreitzberg,2010]**

What forms should the training take?

Many opinions, not much research

- Include self-assessments, such as HCTA, based on scenarios [Butler, 2012]
- Provide many worked examples that point to opportunities and behaviors of critical thinkers. Encourage think-alouds [Duron et al., 2006]
- Use active learning on authentic tasks, then dialogue and reflective thinking
- Provide classroom-based practices, then follow up online and at work with peers and supervisors. Feedback on effort.

What forms should the training take?

More of this, less of that

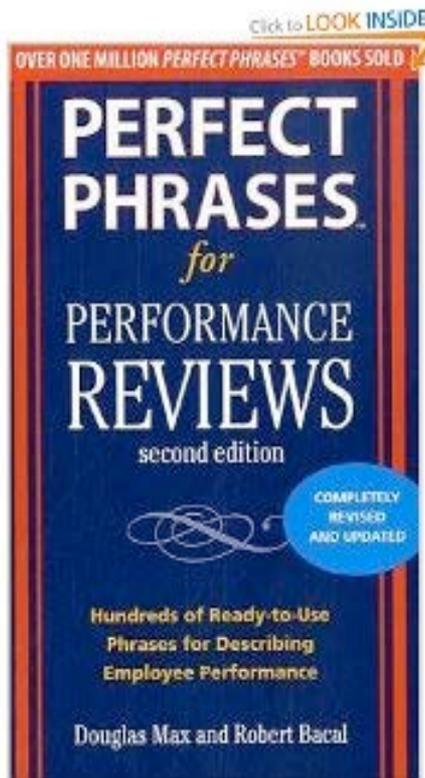
- More interactions with others: supervisors, peers, instructors
- More interactions at work, in class, online, over time
- Push occasional problems that require critical thought, with checklists to shape and examine effort
- Sprinkle objectives and outcomes throughout courses and programs
- Fewer lectures about thinking critically

What
forms
should the
training
take?

Critical thinking climate

- Include definitions and expectations in onboarding, job descriptions, selection and sprinkled throughout courses
- Bring in speakers to talk about how they do it, why they value it, how it matters to organizational strategy
- Mentoring and coaching important
- Included in appraisals?
- Develop faculty in this realm [Elder, 2004]
- Dedicated time at work for reflection, self-assessment, practice, feedback....

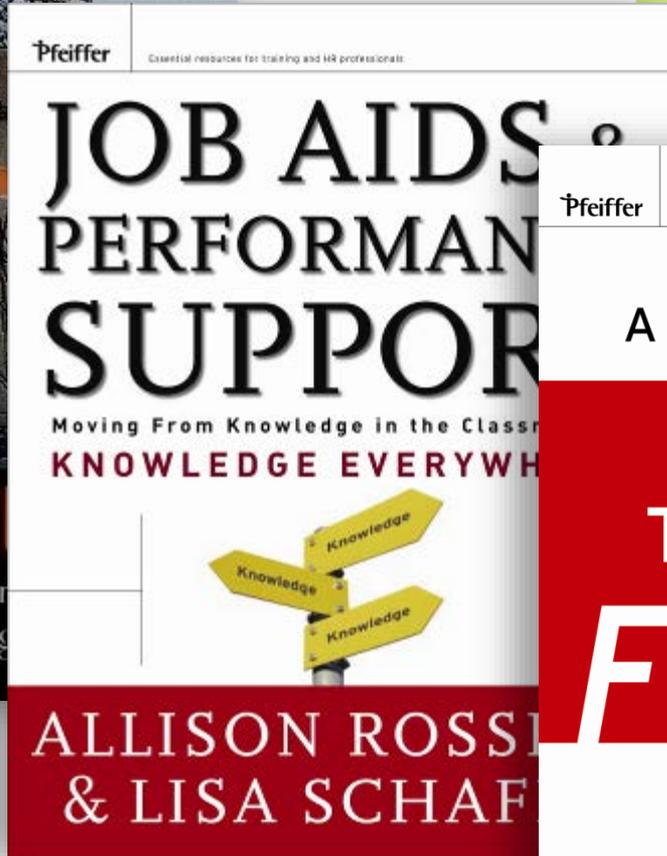
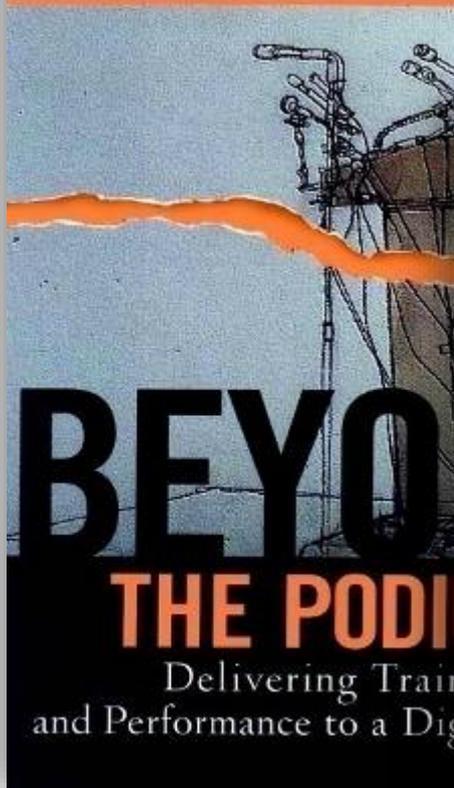
PERFECT PHRASES



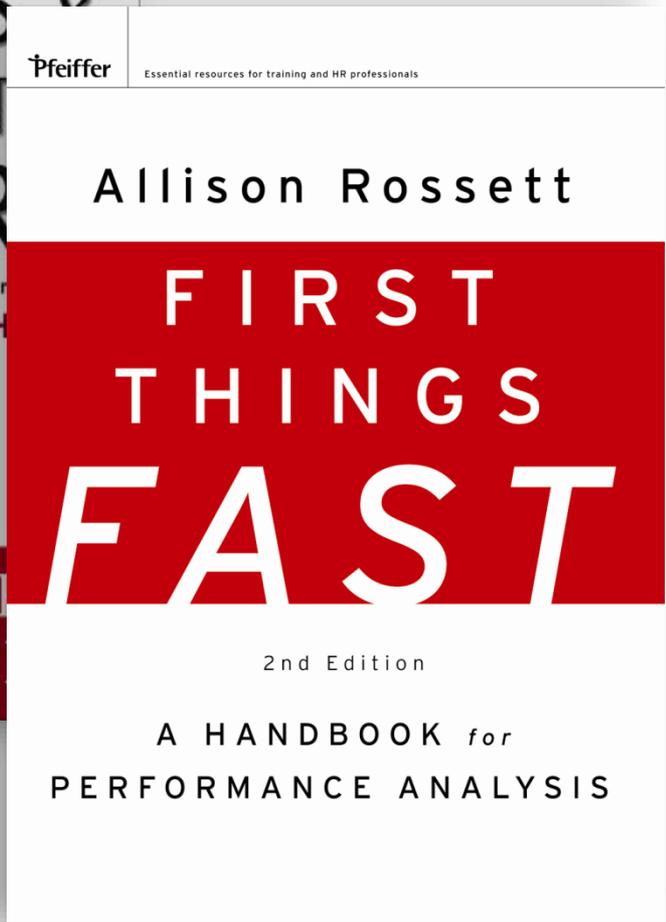
...a virtual management coach to guide managers through many potential workplace situations. The tool is made up of short phrases that can be used by managers. In addition to the wealth of phrases, the tool provides quotations to get you in the right mindset for addressing a situation, sample audio conversations that put the phrases to work, and “things to consider” with additional textual guidance.

Crit
thinking
app?

Allison Rossett & Kendra Sheldon



(800) 956-7739





Dr. Allison Rossett, long time professor of Professor of Educational Technology at San Diego State University, is in the Training magazine Hall of Fame, on the CLO Advisory Board, the DAU Board of Visitors, and Elearning Guild's Advisory Board too.

Rossett, who served on the international Board for ASTD, has authored six books, including a recent edition of her classic, *First Things Fast*: a handbook for performance analysis. Allison writes about and consults on learning, systems, and technology-enabled programming.

Twitter: @arossett • E-mail: arossett@gmail.com

Thanks!