

Schools Need Expert Problem Solvers. I Want that Job!

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CENTER
FOR THE
SCHOOL
OF THE
FUTURE



End of Session Objective

When confronted with an educational problem, we educators often react rather than assess and pinpoint the sources, or root causes of the problem.

Our reactive responses attack the highly visible, even painful symptoms of the problem, producing deceptively rapid short-term benefits, that tend to fail, but provide rapid, in the moment relief.

Attainment of a flexible, effective problem-solving model that focuses on root-causes that is learned and deployed with high levels of automaticity is needed in every educators' skill repertoire.

No Shortage of Educational Challenges

Some Bigs

Cyber-Bullying

Teacher or Student Centered

Teacher Salaries

Local or National Curriculum

School Safety

Achievement – NAEP...

Social-Emotional Health

Standing in the World – PISA Reports

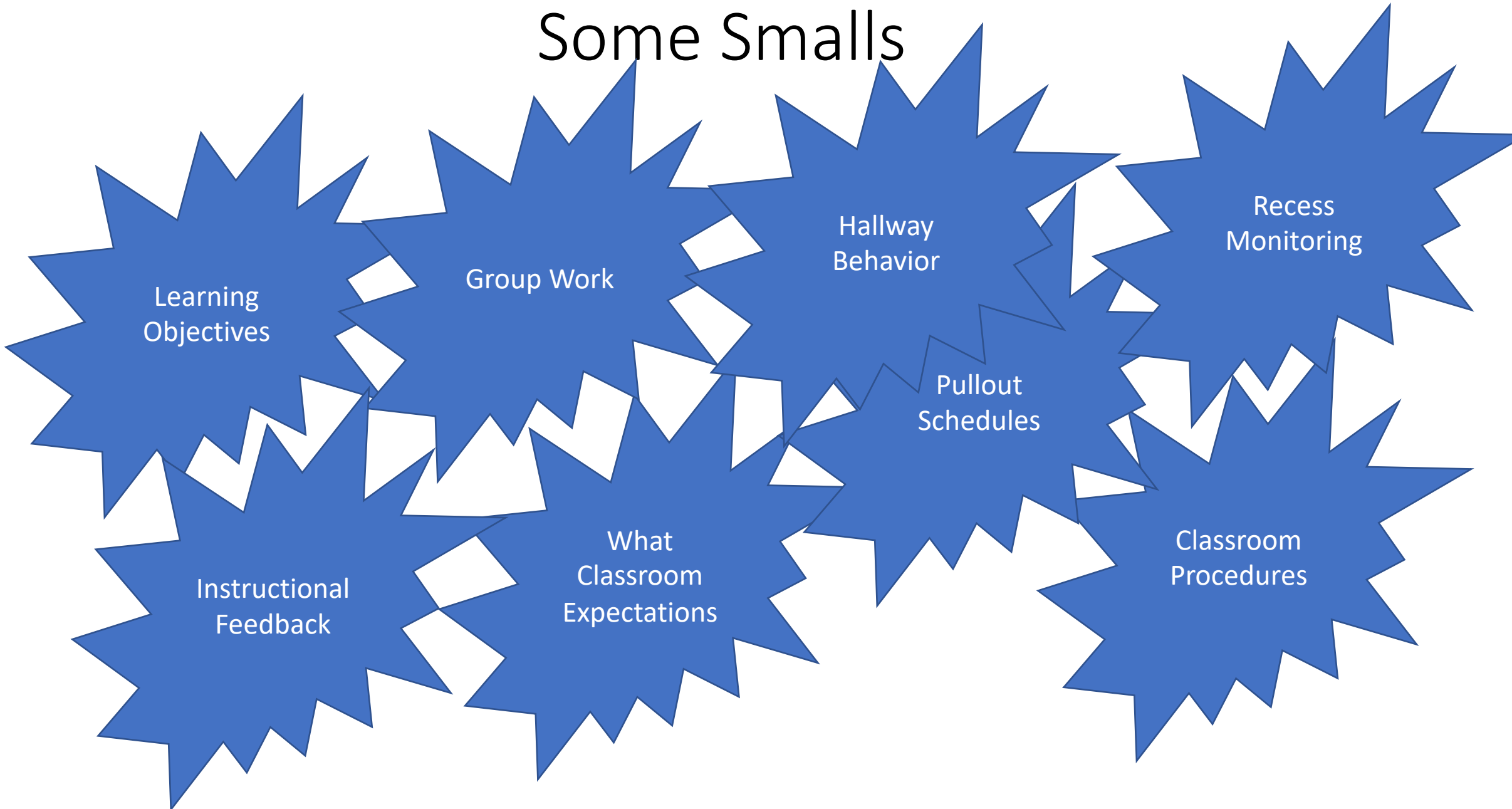
Assessing Learning - Testing

Parent Choice

Teacher Prep & Certification

No Shortage of Educational Challenges

Some Smalls



A problem well stated is a problem
half solved.

Charles F. Kettering



www.thequotes.in

“...Overwhelming tendency to look for the answer or solutions to problems before the problem is defined, it's characteristics investigated, and alternate courses of action are weighed and costed out.”

Joe Harless



Marinated in a culture of increasingly sped up action and reaction!





**Ready
Fire
Aim**



"Great leaders are almost always great simplifiers, who can cut through argument, debate and doubt, to offer a solution everybody can understand."

Colin Powell

ANALYSIS PARALYSIS

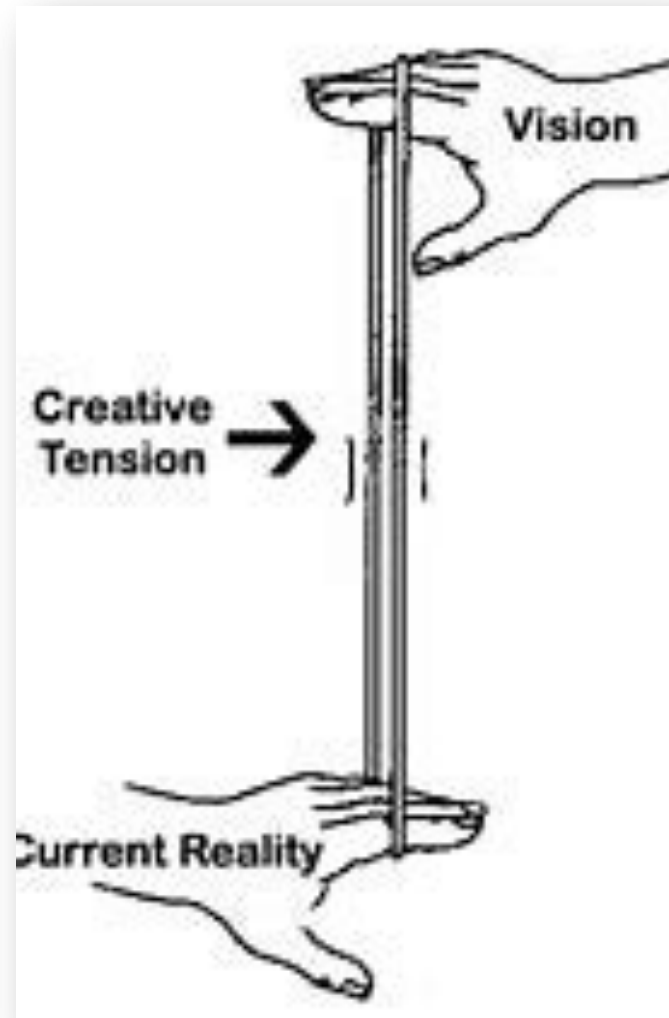


**OVERTHINKING A SITUATION SO THAT A
DECISION OR ACTION IS NEVER TAKEN**

Human Nature

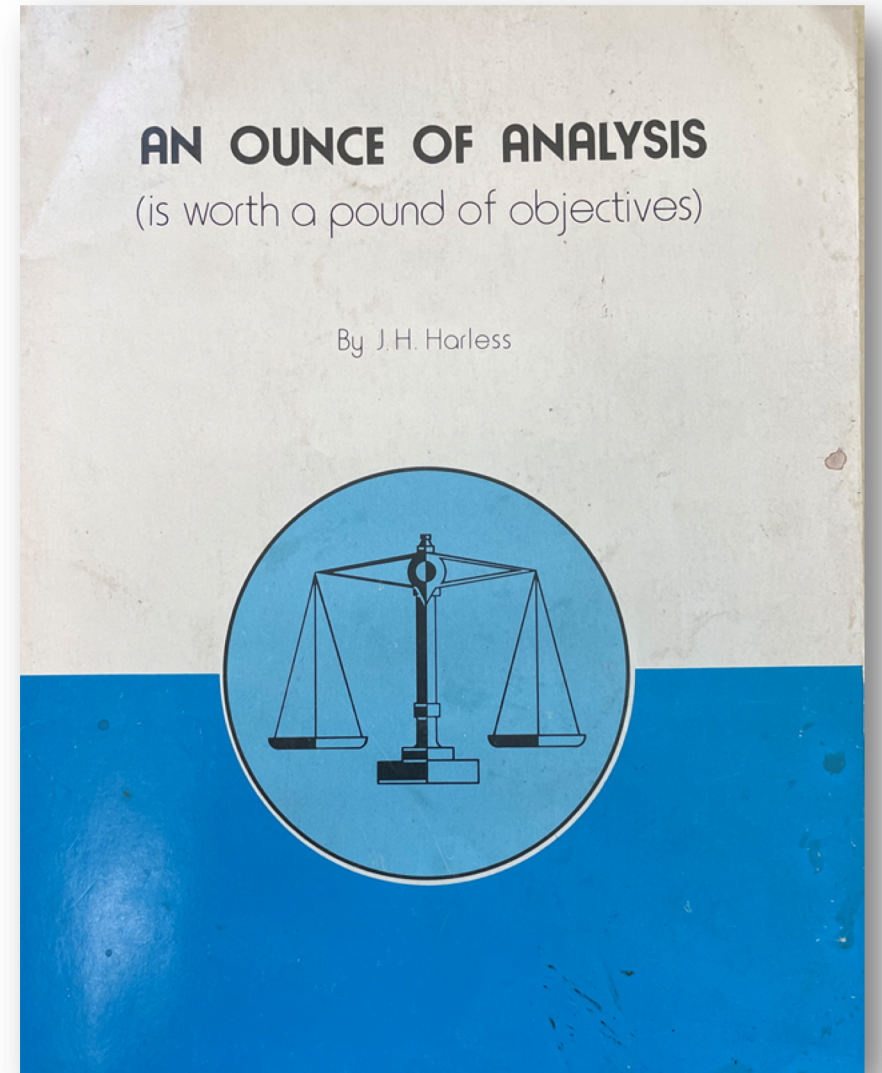
- What is it in our nature that causes us to jump to conclusions?
- What is it that drives us to bags of tricks and solutions and not procedures for generating solutions?
- Why do we think of answers and not questions?
- Why does business, government and education reward people for answers and solutions, not questions and systematic analysis?
- Majority agrees that questions come before answers.
- Majority agrees that analysis comes before solutions.



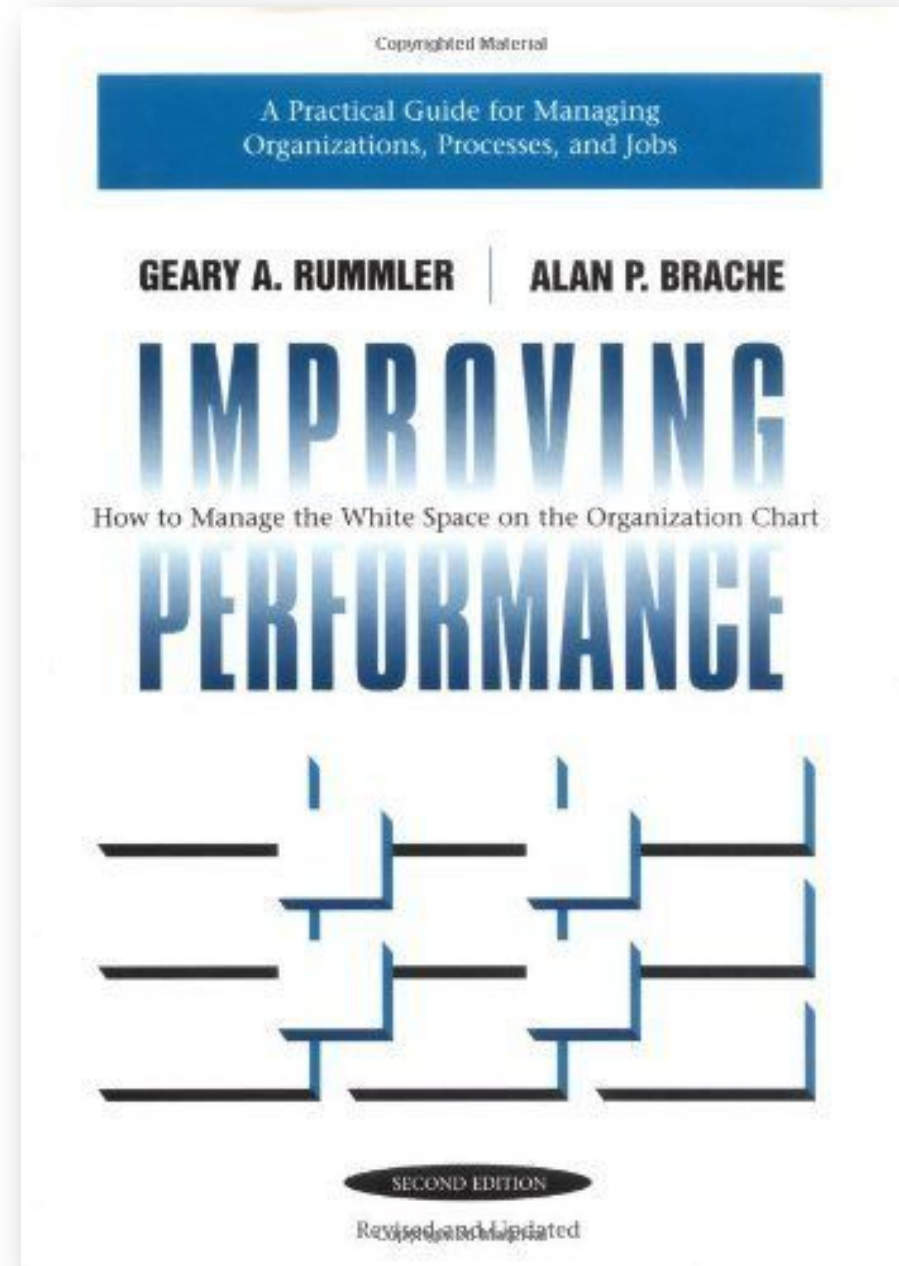


Peter Senge

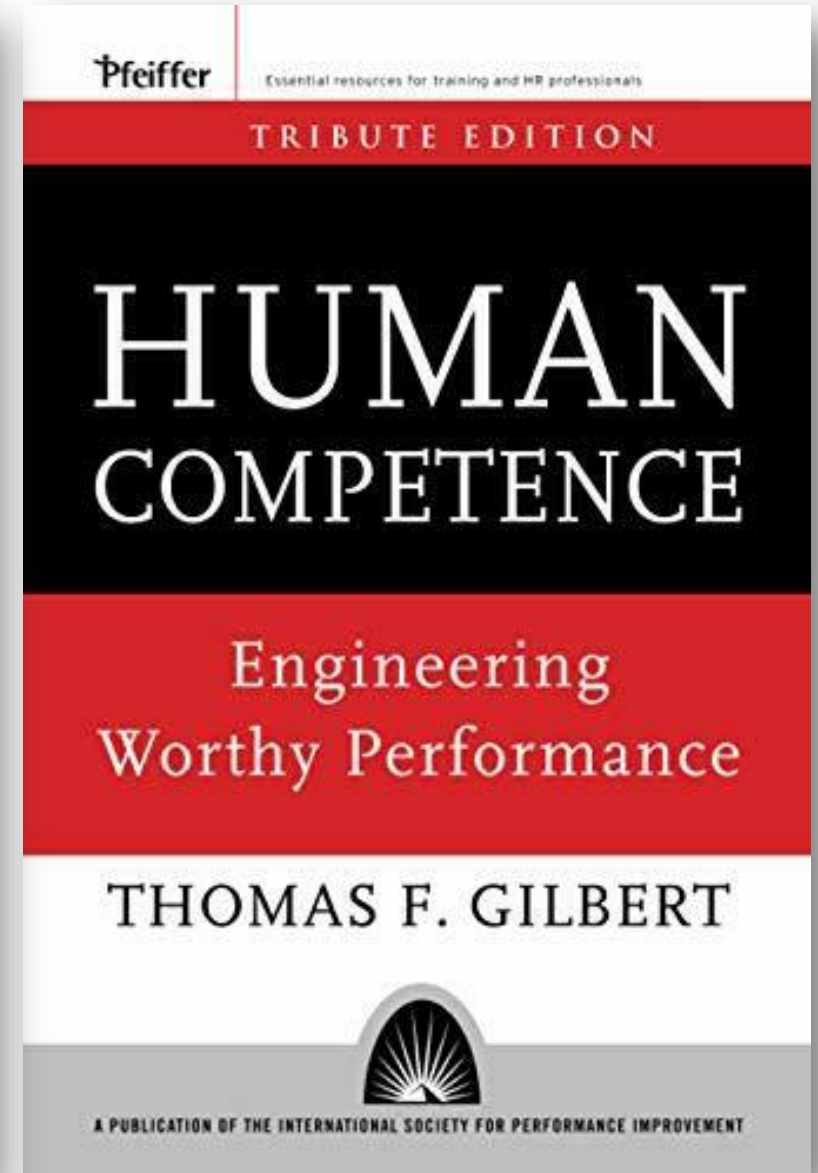
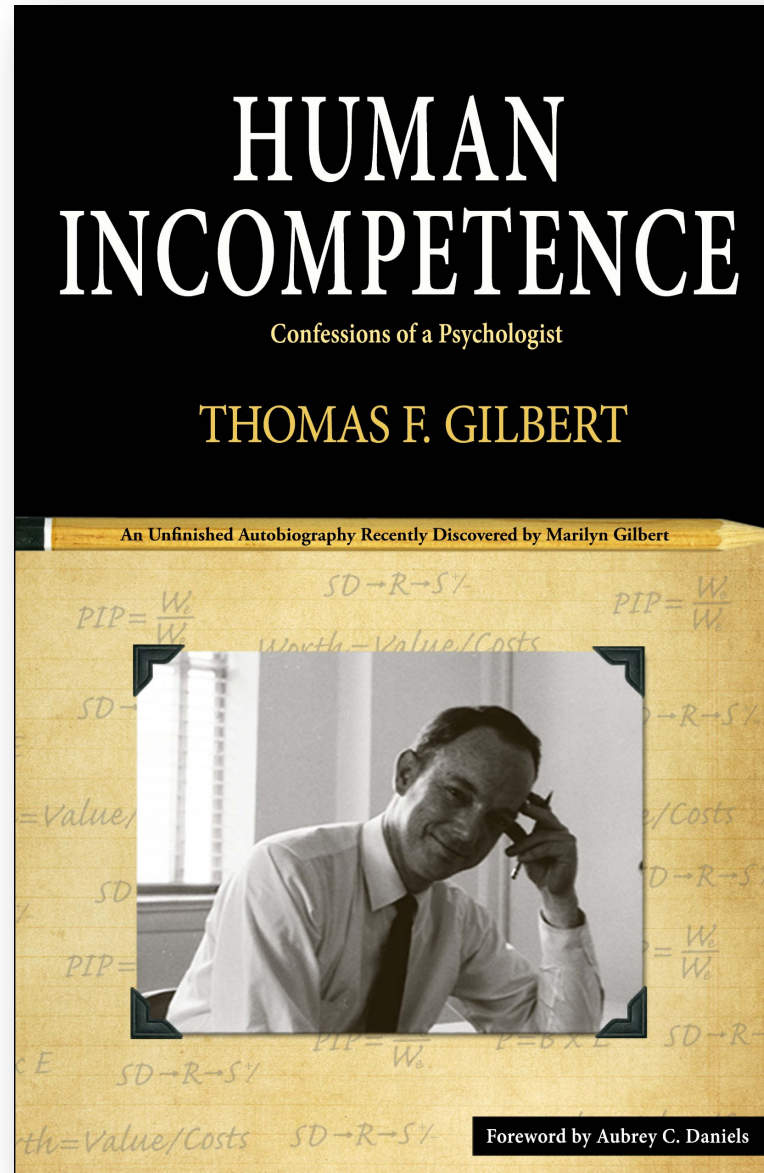
“We believe...an ounce of analysis is worth a pound of anything else *(including immediate action...training...)*.”



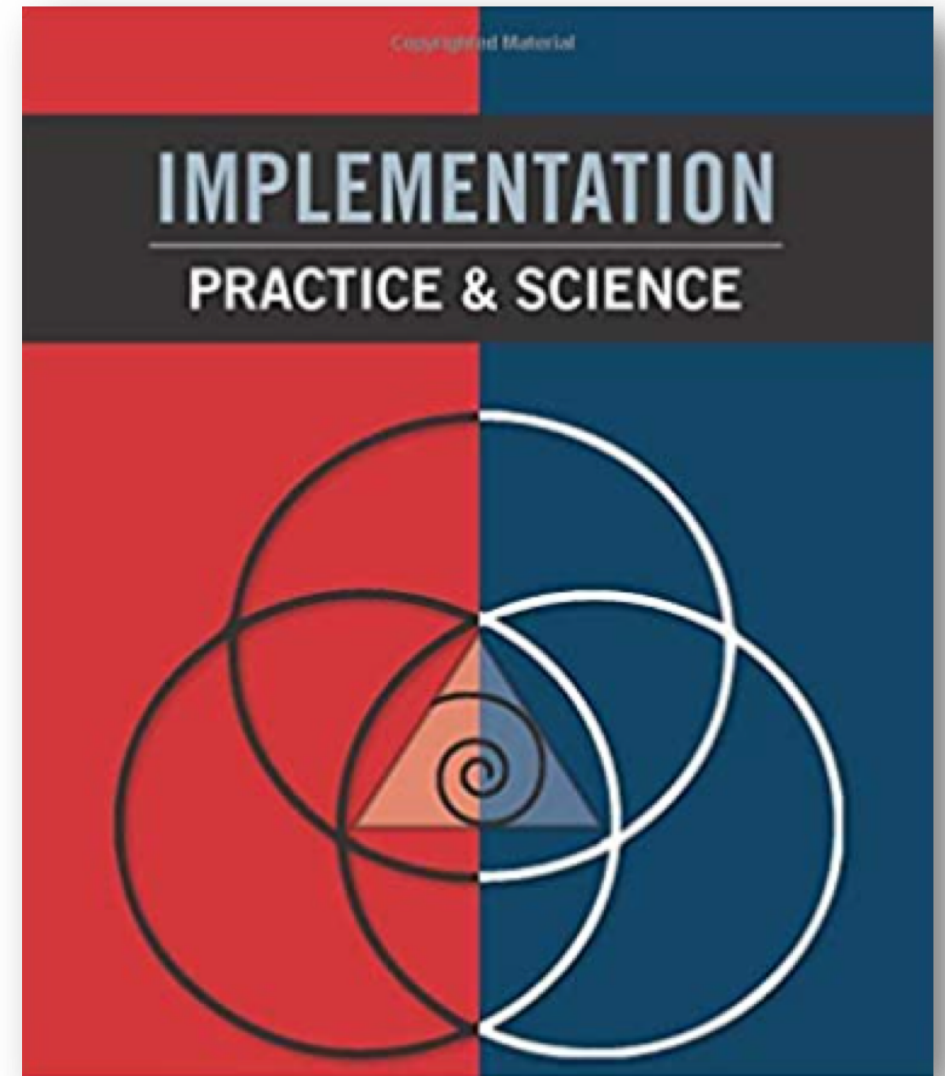
“Piecemeal approaches that are assumed to be the answer are as dangerous as no response at all.”



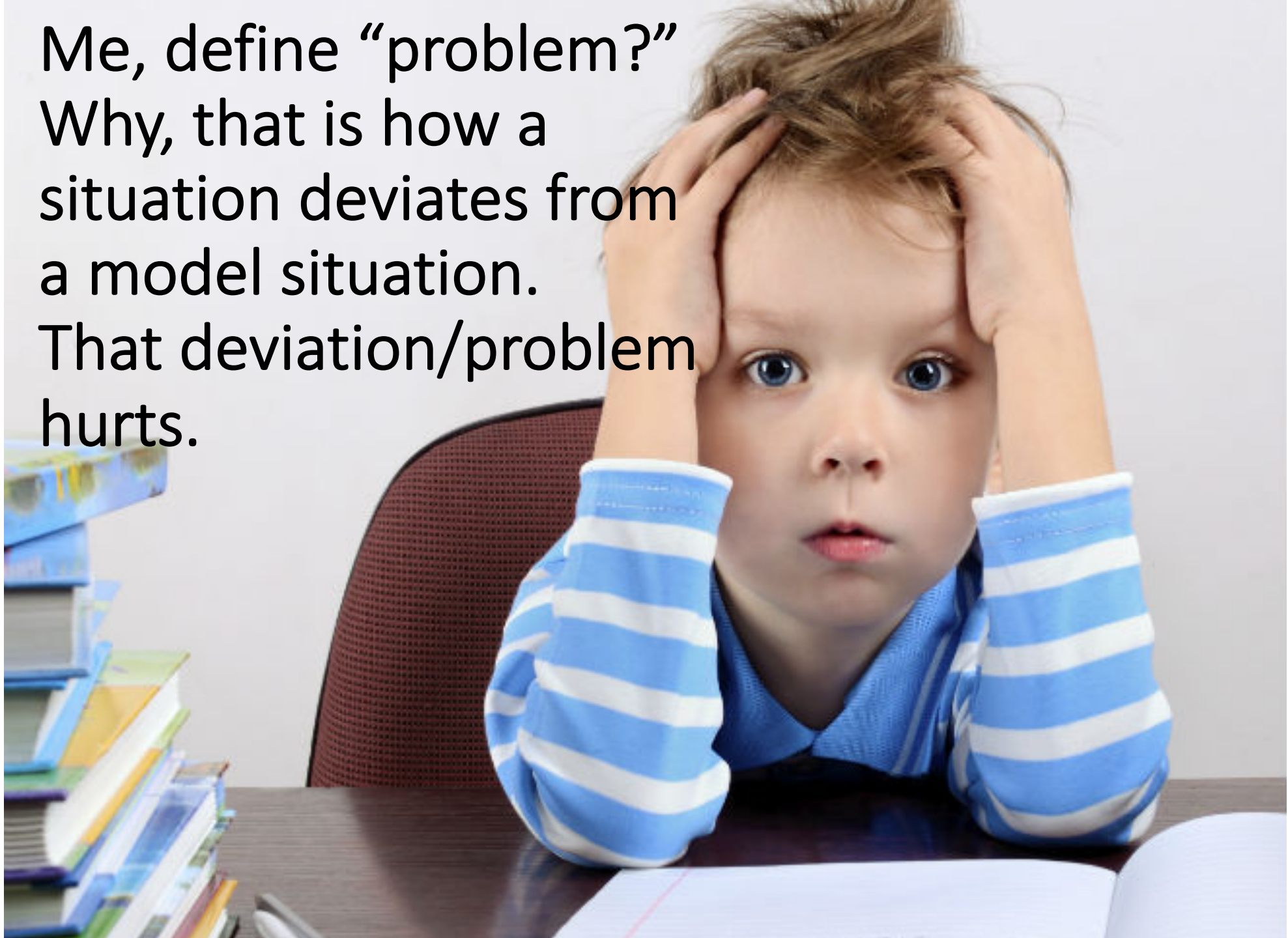
“The first rule of engineering worthy performance—get clear about valued accomplishments.”



“How do you implement a vague idea, practice or policy? First, disambiguate it...make it clear!” Fixen & Blasé.



Me, define “problem?”
Why, that is how a
situation deviates from
a model situation.
That deviation/problem
hurts.



This definition of “problem” commits us to:

1. Realize the problem is hurting us.
2. Decide to do something about the problem.
3. Define how we are hurting.
4. Define how we will know when the problem is solved – or define the “problem free” situation.

**All of this before we even think
about eliminating the
problem/hurt!**



We don't get what we want
by simply getting rid of
what we don't want
(problem/hurt).

Russel Ackoff



The righter you do the wrong thing, the wronger you become. The wronger you do the right thing, the righter you become - Russel Ackoff



Expert Problem Solving

Front-End Analysis

1. Determine “what is.”
2. Determine “what should be.”
3. Examine deficit between “what is” and “should be.”
4. Determine if the deficit is a “problem.”
5. Determine if there is a “root cause,” producing the problem.
6. Hypothesize remedies to root cause.
7. Test hypothesis remedies.
8. Weigh costs and effects of each remedy.
9. Select and implement best remedy. ●
10. Evaluate gap between “what is” and “what should be.” ●




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My Problem Case

“After getting my students working independently, and after stating expectations, I take a few students to the kidney table for intensive supports. Incredible to believe, but almost immediately students working at their desks begin violating the stated expectations. I can’t get any intensive work done because of the behavior of students working at their desks...arrrrggggh.”

Your Problem Case?

1-minute

Front End Analysis – Worksheet				
My Case 				
Steps		Results		
Determine “what is.”				
Determine “what should be.”				
Examine deficit between “what is” and “should be.”				
Determine if deficit is a “problem.”				
Determine if there is a “root cause,” producing the problem.		Knowledge-Skill	Motivation	Environmental
Hypothesize remedies to root cause.		Knowledge-Skill	Motivation	Environmental
Test hypothesis remedies.				
Weigh costs and effects of each remedy.				
Select and implement best remedy.				
Evaluate gap between “what is” and “what should be.”				

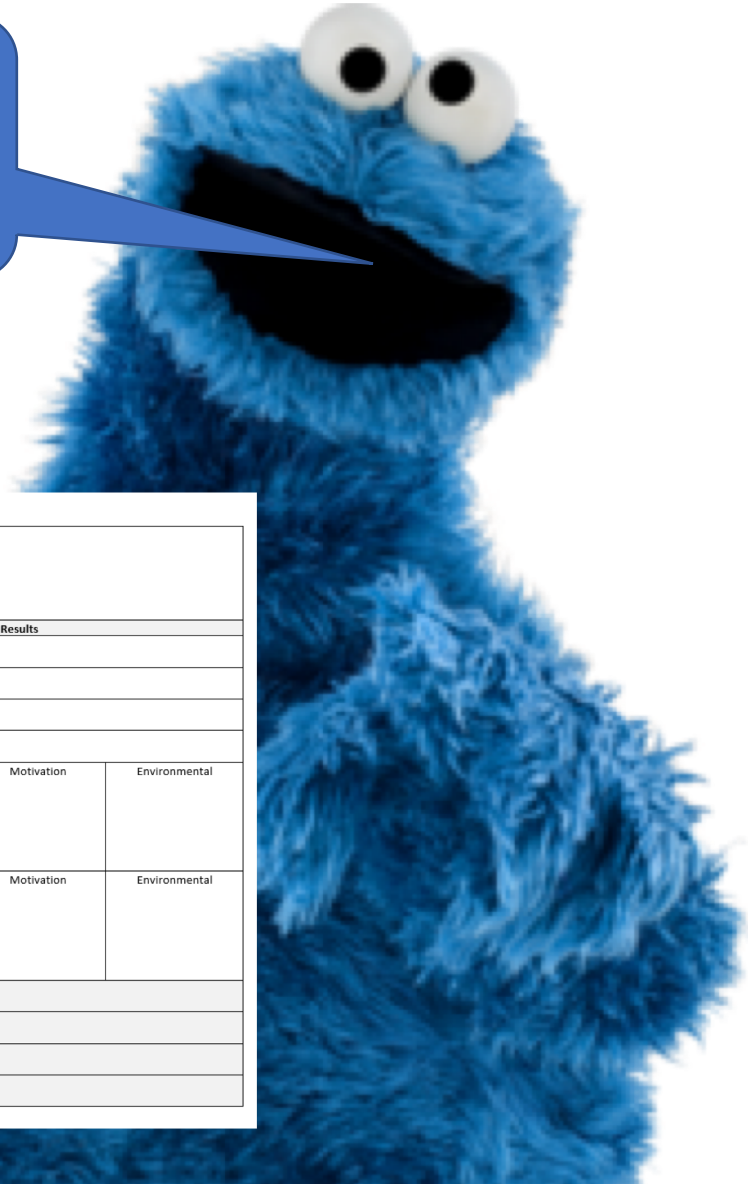
Step 1 – Determine “What is”

“My desk students are not complying with work expectations while I am at the kidney table doing intensive work with a small group of students.”



Step 1 – Determine “What is”

Uuum...stop talking Dave!
It's their turn.



Front End Analysis – Worksheet

My Case

Steps	Results		
Determine “what is.”			
Determine “what should be.”			
Examine deficit between “what is” and “should be.”			
Determine if deficit is a “problem.”			
Determine if there is a “root cause,” producing the problem.	Knowledge-Skill	Motivation	Environmental
Hypothesize remedies to root cause.	Knowledge-Skill	Motivation	Environmental
Test hypothesis remedies.			
Weigh costs and effects of each remedy.			
Select and implement best remedy.			
Evaluate gap between “what is” and “what should be.”			

Step 2 – Determine “What Should Be”

“My desk students should be complying with independent work expectations while I am at the kidney table.”



Step 2 – Determine “What Should Be”

No really! Stop
talking Dave!
It's their turn.



Step 3 – Examine Gap - “What Is and Should Be”

“There’s a big gap! I expect desk students to stay in their seats, silently complete independent work, and pull out their library book if they finish early. They violate each expectation.”



Step 3 – Examine Gap - “What Is and Should Be”

Wish I had a
cookie to stuff
in his mouth.
Their turn
Dave!




Step 4 – Determine if deficit is a “problem”

“Without question it is a problem. Desk students are not learning...they’re not completing their work. Intensive students are not learning...I’m too busy asking students to quiet down, return to their seats, or begin working.”



Step 4 – Determine if deficit is a “problem”

A blue, furry Muppet character with large white eyes and a wide black mouth, looking upwards and to the left. A blue speech bubble points to its mouth.

Oh, good...the
cookie did the
trick.

Step 5 – Determine if there is a “root cause,” producing the problem

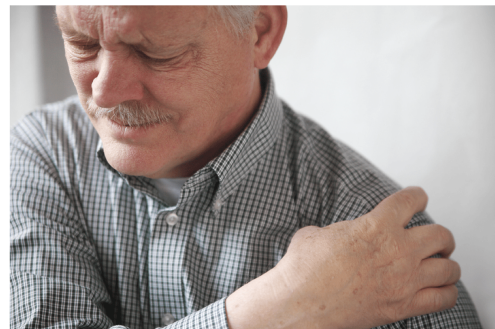
The 5 Whys – Down Payment on the Car (symptoms vs. RC)

3 Common Categories (there are others)

- Knowledge-skill deficits (“can’t do” - know too little) (PD)
- Motivation deficits (won’t do - incentive deficits)
- Environmental deficits (can’t do – systems obstacles block performer)



“I’ve never discovered a problem where it was reported to be. It’s always been somewhere else.” - Russel Ackoff



Step 5 – Determine if there is a “root cause” producing the problem

“Yes, I know what my students are doing, but why? What is the root cause (RC)? Is the RC a knowledge-skill deficit? Is the RC a motivational deficit? An environmental deficit? Is the RC a combination of these three deficits?”



Step 5 – Determine if there is a “root cause” producing the problem

“Ok, is the RC a knowledge-skill deficit?”

“Hmm. It’s possible. I’ve told them what I expect...but I haven’t had them demonstrate for me that they can do it. Conceptually, I think they know what to do, but maybe they don’t understand why it is important and what it looks and sounds like when they do it...that is, comply with classroom expectations.”



Step 5 – Determine if there is a “root cause” producing the problem

“Ok, is the RC a motivational deficit?”

“Good question. What exactly do they get out of complying? They avoid my verbal reminders and reprimands.”

“I guess if they don’t comply they get to have fun.”

“Hmm. I wonder if the fun is a more powerful incentive than avoiding my reminders and reprimands?”



Step 5 – Determine if there is a “root cause” producing the problem

“Ok, is the RC an environmental deficit?”

“A lot of kids get up to sharpen pencils and then end up visiting.”

“Come to think of it...the kids that are most non-compliant are seated furthest from the kidney table.”

“Some kids have not had a book to turn to and read when finishing early.”



Step 5 – Determine if there is a “root cause” producing the problem

“Ok, is the RC a combination of the three? Yes, maybe all three root cause types explain a portion of why my desk students don’t meet independent work expectations.”



Step 5 – Determine if there is a “root cause” producing the problem

Outa cookies. I bet Groucho could quiet you down. Their turn Dave!



Step 6 – Hypothesize remedies to root cause

Knowledge-Skill RC – “I could re-teach expectations, model for them what is expected, and have them show me how to meet and not meet the expectation.”



Step 6 – Hypothesize remedies to root cause

Motivation RC – “My praise coupled with a classroom buck is not happening because I’m busy at the kidney table. Could I assign students to take turns being the teacher and look for compliance, praise compliance, and hand out bucks while I’m at the kidney table?”



Step 6 – Hypothesize remedies to root cause

Environmental RC – “So many kids get out of their seat to sharpen pencils, or get a book to read from the class library. As part of my start up routine, I will have everyone ensure they have two sharp pencils and a book in their desks. Also, I am going to move the kidney table closer to all students.”



Step 6 – Hypothesize remedies to root cause

Woot! Woot!
Nice job Dave!
You're getting
the hang of
this! Now, its
their turn!



Expert Problem Solving

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Do my students lack knowledge or skill? Do they need training? Caution...not so fast. Or, do they need something else?

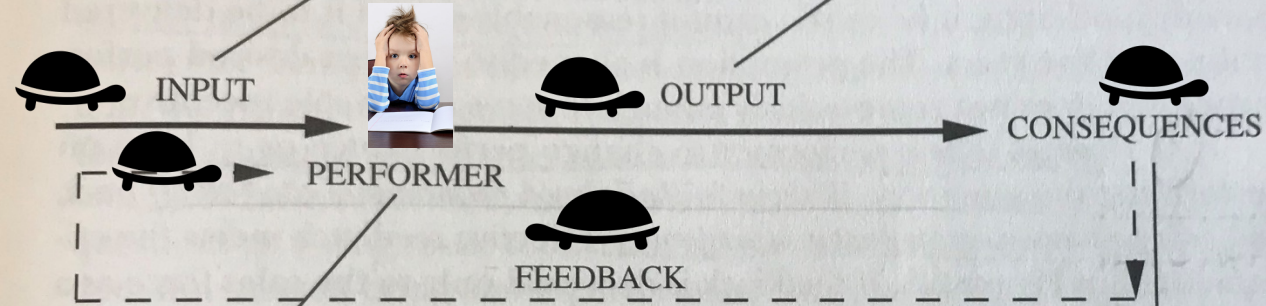


2. TASK SUPPORT

- Can the performer easily recognize the input requiring action?
- Can the task be done without interference from other tasks?
- Are the job procedures and work flow logical?
- Are adequate resources available for performance (time, tools, staff, information)?

1. PERFORMANCE SPECIFICATIONS

- Do performance standards exist?
- Do performers know the desired output and performance standards?
- Do performers consider the standards attainable?



5. SKILLS/KNOWLEDGE

- Do the performers have the necessary skills and knowledge to perform?
- Do the performers know why desired performance is important?

6. INDIVIDUAL CAPACITY

- Are the performers physically, mentally, and emotionally able to perform?

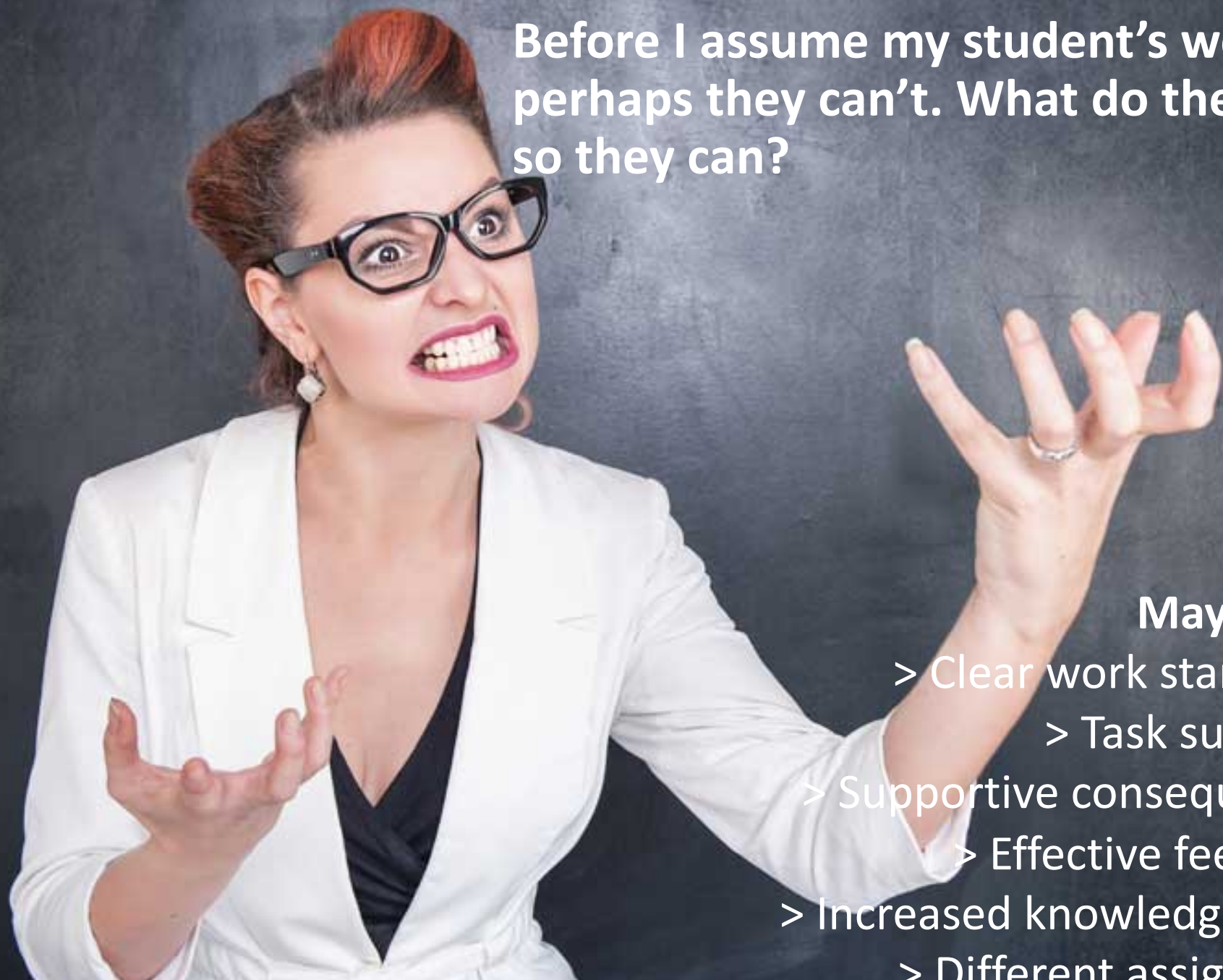
4. FEEDBACK

- Do performers receive information about their performance?
- Is the information they receive:
 - relevant?
 - accurate?
 - timely?
 - specific?
 - easy to understand?

3. CONSEQUENCES

- Are consequences aligned to support desired performance?
- Are consequences meaningful from performer's viewpoint?
- Are consequences timely?


Rummler & Brache
1995



Before I assume my student's won't, perhaps they can't. What do they need so they can?

May need:

- > Clear work standards
- > Task supports
- > Supportive consequences
- > Effective feedback
- > Increased knowledge-skills
- > Different assignment

A vibrant sunset over the ocean. The sky is filled with streaks of orange, red, and yellow, radiating from the horizon. The sun is partially visible on the right side, creating a bright glow. The ocean waves are gently breaking on a sandy beach in the foreground. The overall scene is peaceful and inspiring.

“Don’t Let the Perfect Get in
the Way of the Good.”

Voltaire



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