"H⟨...⟩ent

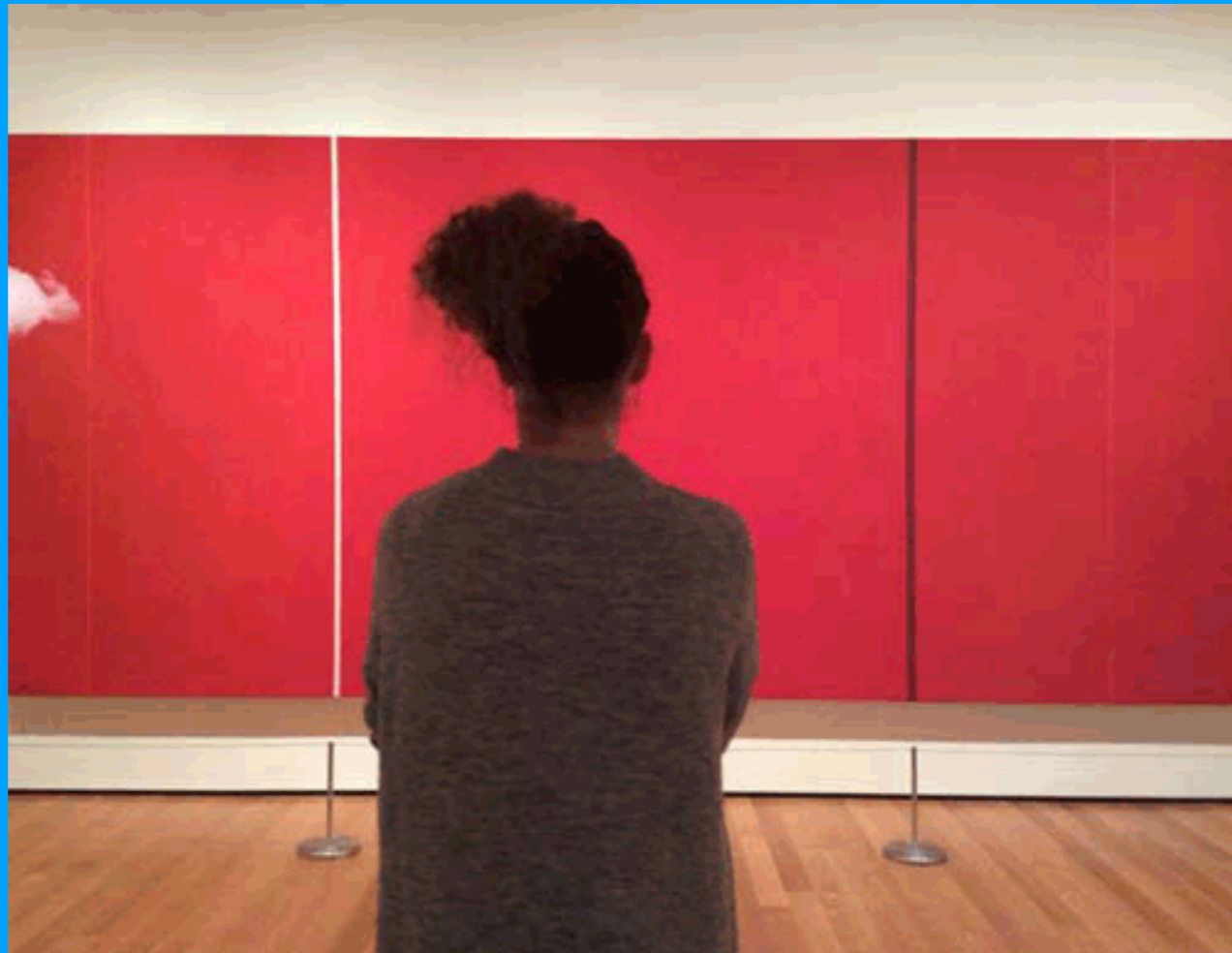**Stuff You Can Use on Monday**

Dr. Fred Burton
Ashland University
fburton@ashland.edu

Jason Blair
Dublin City Schools
jasonmblair@icloud.com

As we present…Ask yourself

"How can I adapt, revise, change this to work for *me*?"

What's *possible*?

***We believe you're motivated creative people…
Figure out how to apply <u>at your level.</u>**

*It's not the level of the examples that matter…it's the PROCESS

Handout Alert!

8 Cultural Forces that Define our Classrooms

OPPORTUNITIES — Providing purposeful activities that require students to engage in thinking and the development of understanding as part of their ongoing experience of the classroom

TIME — Allocating time for thinking by providing time for exploring topics more in depth as well as time to formulate thoughtful responses.

MODELING — Modelling of who we are as thinkers and learners so that the process of our thinking is discussed, shared, and made visible.

LANGUAGE — Using language of thinking that provides students with the vocabulary for describing and reflecting on thinking.

ENVIRONMENT — Making thinking visible by displaying the process of thinking and development of ideas. Arranging the space to facilitate thoughtful interactions.

INTERACTIONS — Showing a respect for and valuing of one another's contributions of ideas and thinking in a spirit of ongoing collaborative inquiry.

ROUTINES — Scaffolding students' thinking in the moment as well as providing tools and patterns of thinking that can be used independently.

EXPECTATIONS — Setting an agenda for understanding and conveying clear expectations. Focusing on the value for thinking and learning as outcomes as opposed to mere completion of "work."

PZ PROJECT ZERO | Cultures of Thinking | pz.harvard.edu/projects/cultures-of-thinking

Four Targets Found in Our Description

🎯 Effective ways to deepen student learning through examining student-teacher talk

🎯 Introduced to "Thinking Routines" with students and staff to deepen their thinking

🎯 Making learning that "sticks" through experiences with depth and imagination

🎯 Weave these outcomes together to develop creative and civic capacities that empower student agency

Headlines

Stuff on Monday

Think back to your summer break...

Highlights...Lowlights

Events...Unevents

WRITE A HEADLINE...

Committee appoints committee to appoint committee

CAPTURES YOUR <u>THOUGHTS</u>, <u>EMOTIONS</u>, or <u>KEY IDEAS</u> about your summer break

With pen write BIG on headline strip

Write 2-5 sentences on the back...

Do this…then next step (don't share yet)
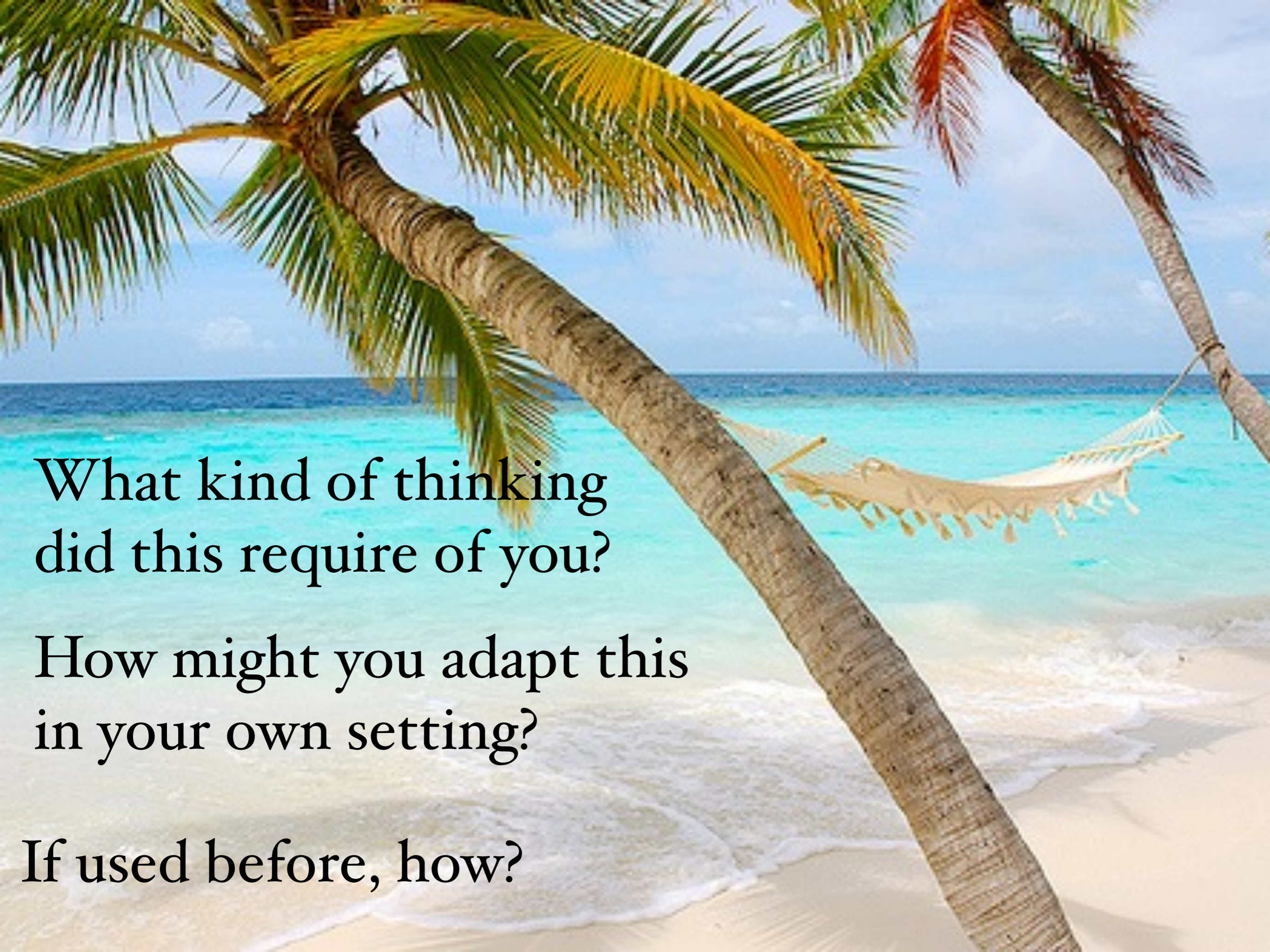
What kind of thinking
did this require of you?

How might you adapt this
in your own setting?

If used before, how?
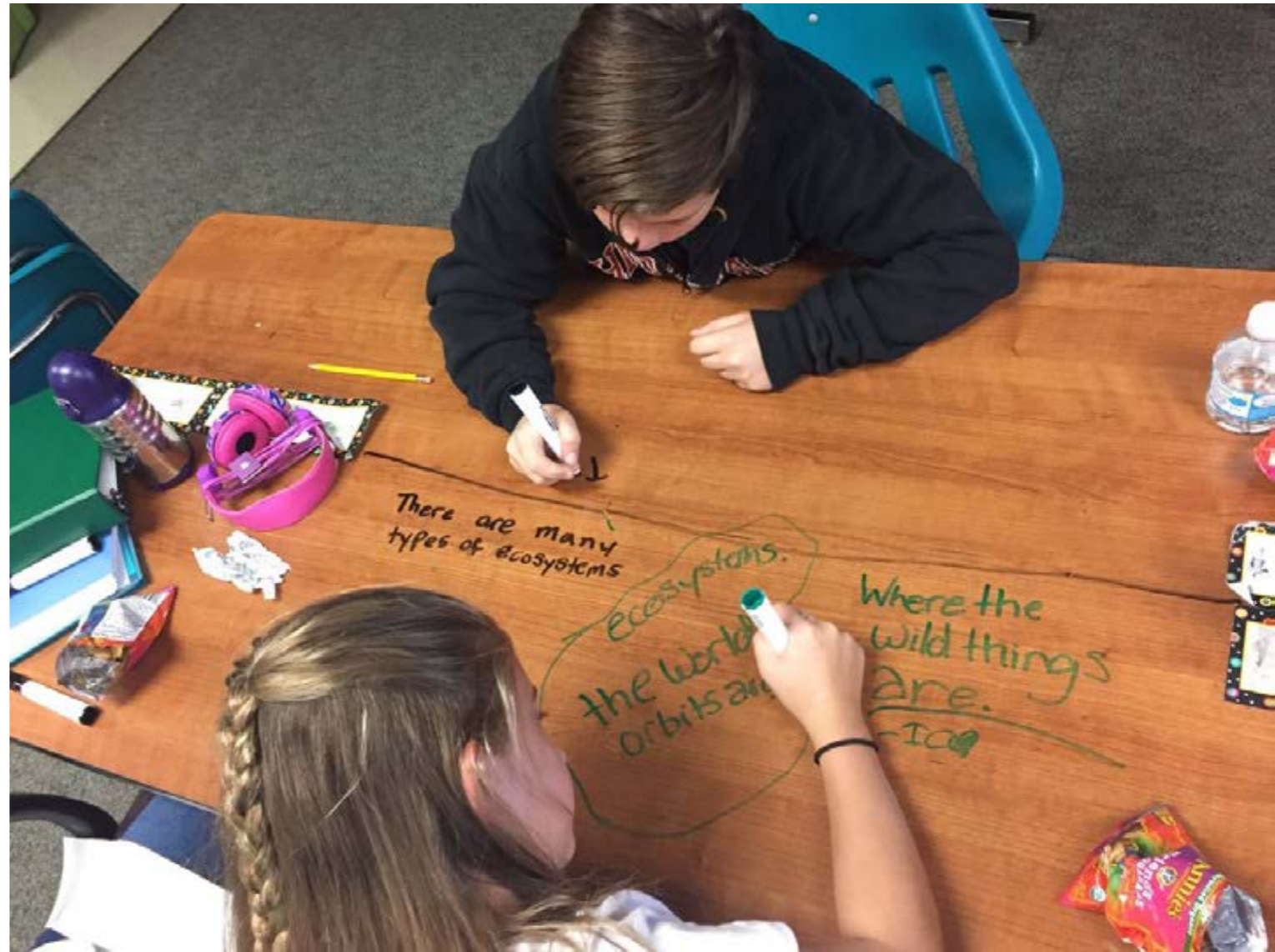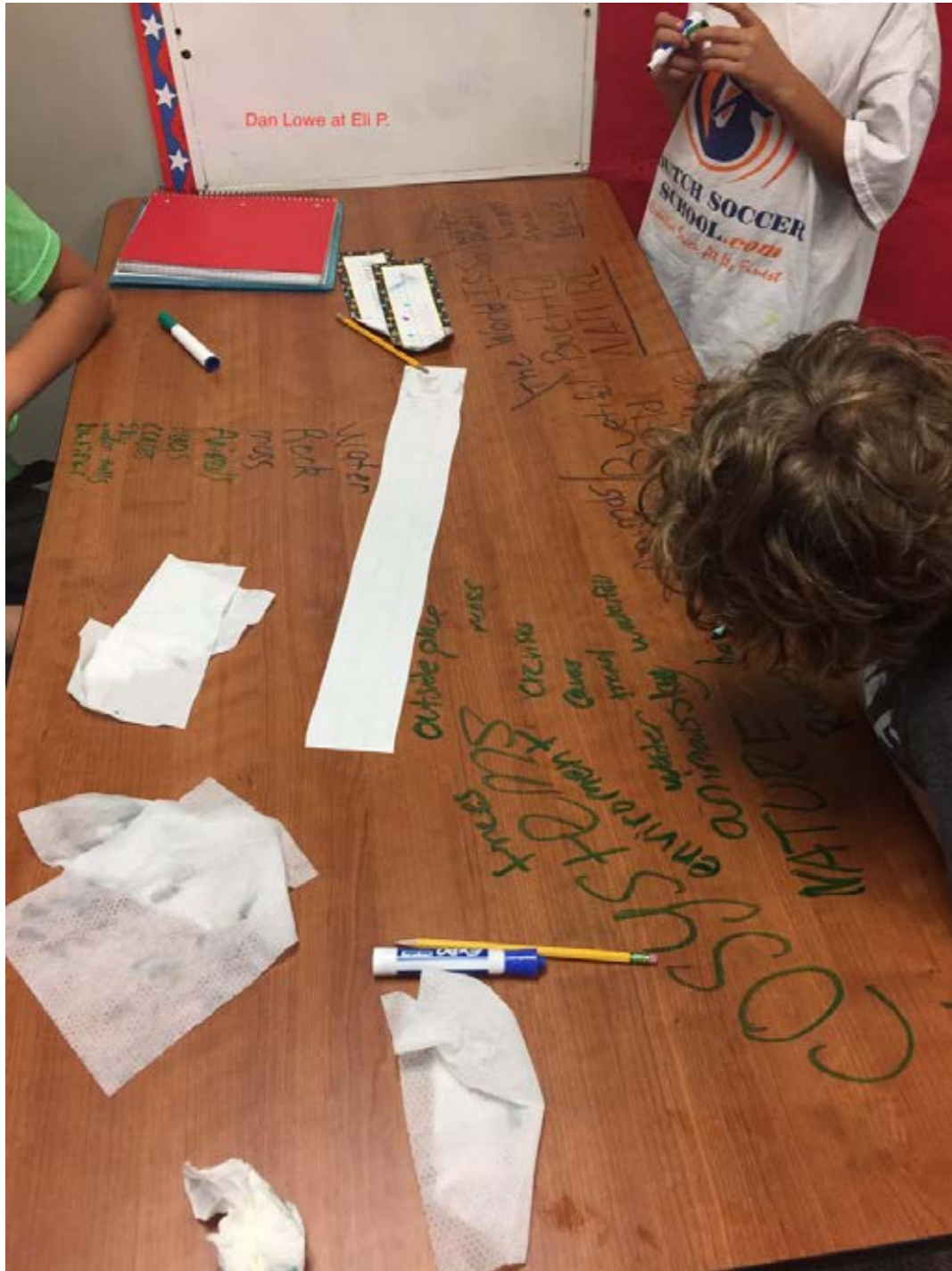
Dan Lowe 4th grade
applies to ecosystem study
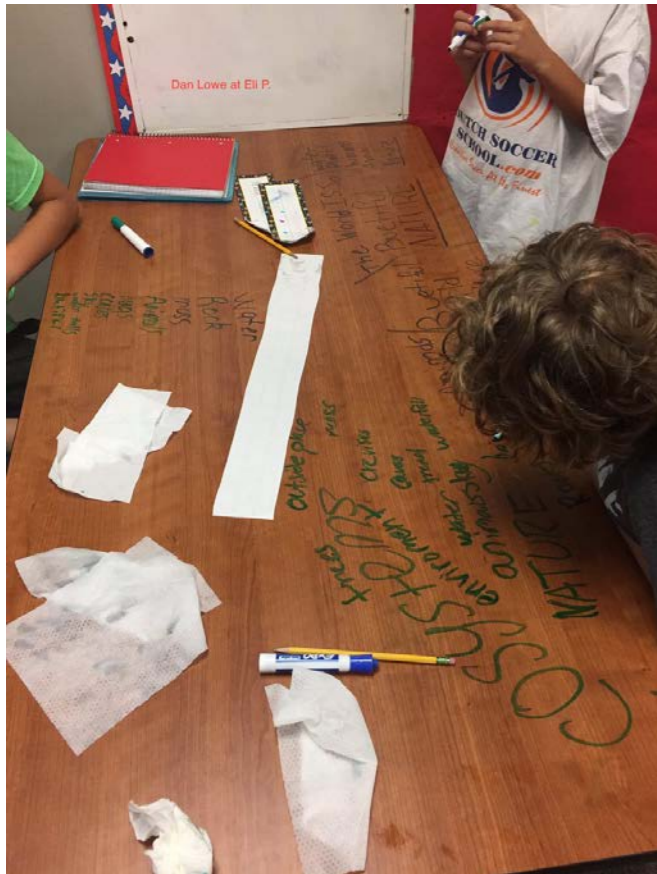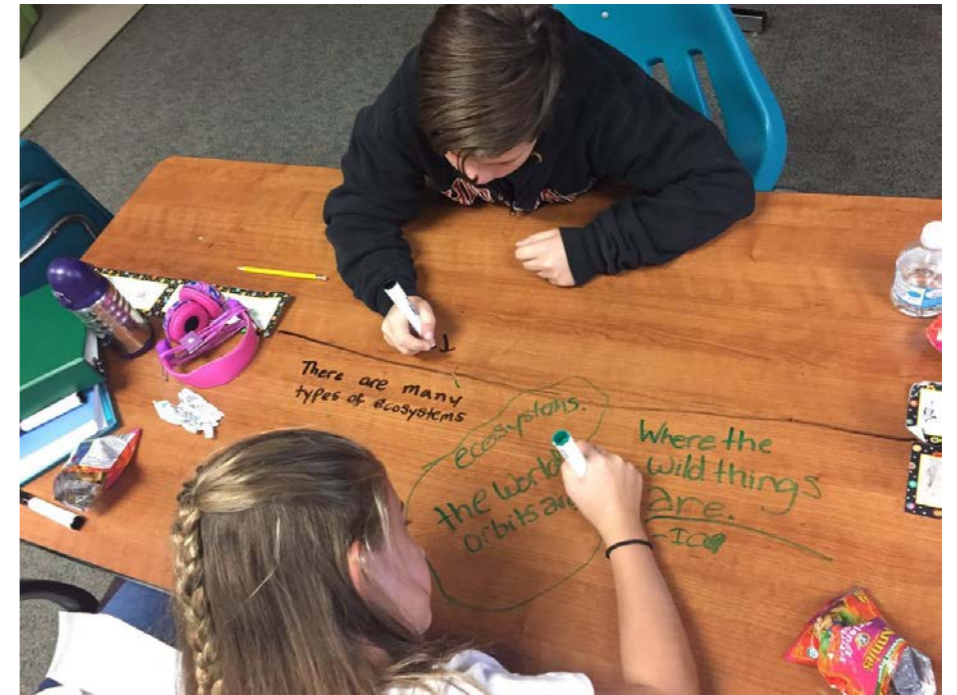
"We are getting ready to start an in-depth ecosystem exploration where students will be learning about ecosystems of their choice and creating 3-d models to represent all that we learn through the process. The headlines were a pre-assessment to see what knowledge students were bringing to the table before we had discussed any thing about ecosystems. It also showed me a few misconceptions I need to address in the upcoming weeks! The photos I shared are them in the process of brainstorming a headline as a group. I posted the headlines in the room and let students know they can change their headline at anytime. I plan to keep each headline and see how it evolves as we learn more together." 5th Grade, Eli P.

Mr. Murphy
7th Grade Social Studies
Olentangy MS
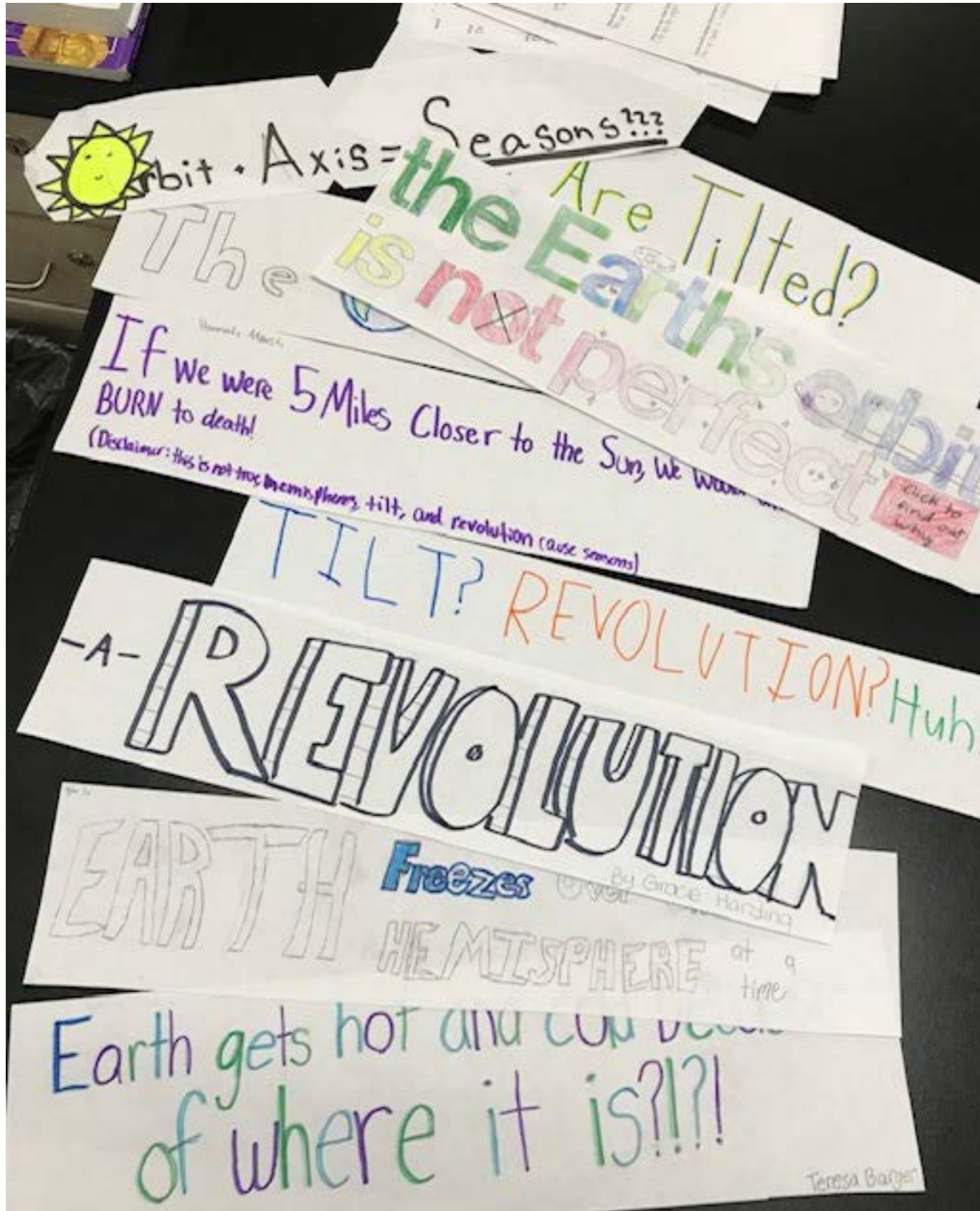
"I used headlines on Friday after my students worked on a presentation to explain how and why Earth experiences seasons. They were awesome. It was fun to see them struggle with the creative/attention grabbing aspect of coming up with a headline, as well as the important factual information that needed to be in it."

Cows lose t
as milk pric

SOUTH HAVEN

City unsure why
the sewer smells

Missippi's literacy
program shows
improvement

Stickland said he will discuss the
strategy of putting a non-toxic
smoke into the sewer to detect the
path of the offensive gas emanat-
ing from basement drains.

Your Turn

Donna Parker
Biology
HS
"Photosynthesis"

↗ On one side of your strip of paper, create a headline that illustrates your learning from Wednesday's activity

↗ On the back of your strip, provide two statements or pictures that explain your headline in context of your learning.

aroline Stukey
/14/16   Period 1

Headline:

Photosynthesis and cellular respiration are married.

They can't work without eachother ← Main idea

*Cellular respiration takes in the oxygen that the photosynthesis produces

*Photosynthesis takes in the carbon dioxide that cellular respiration produces.

They need eachother like a married couple!

two statements
explaining my
headline.

I liked this activity because there are a lot of right answers, and we got to be creative without

Beth Willer
Spanish III
Coffman
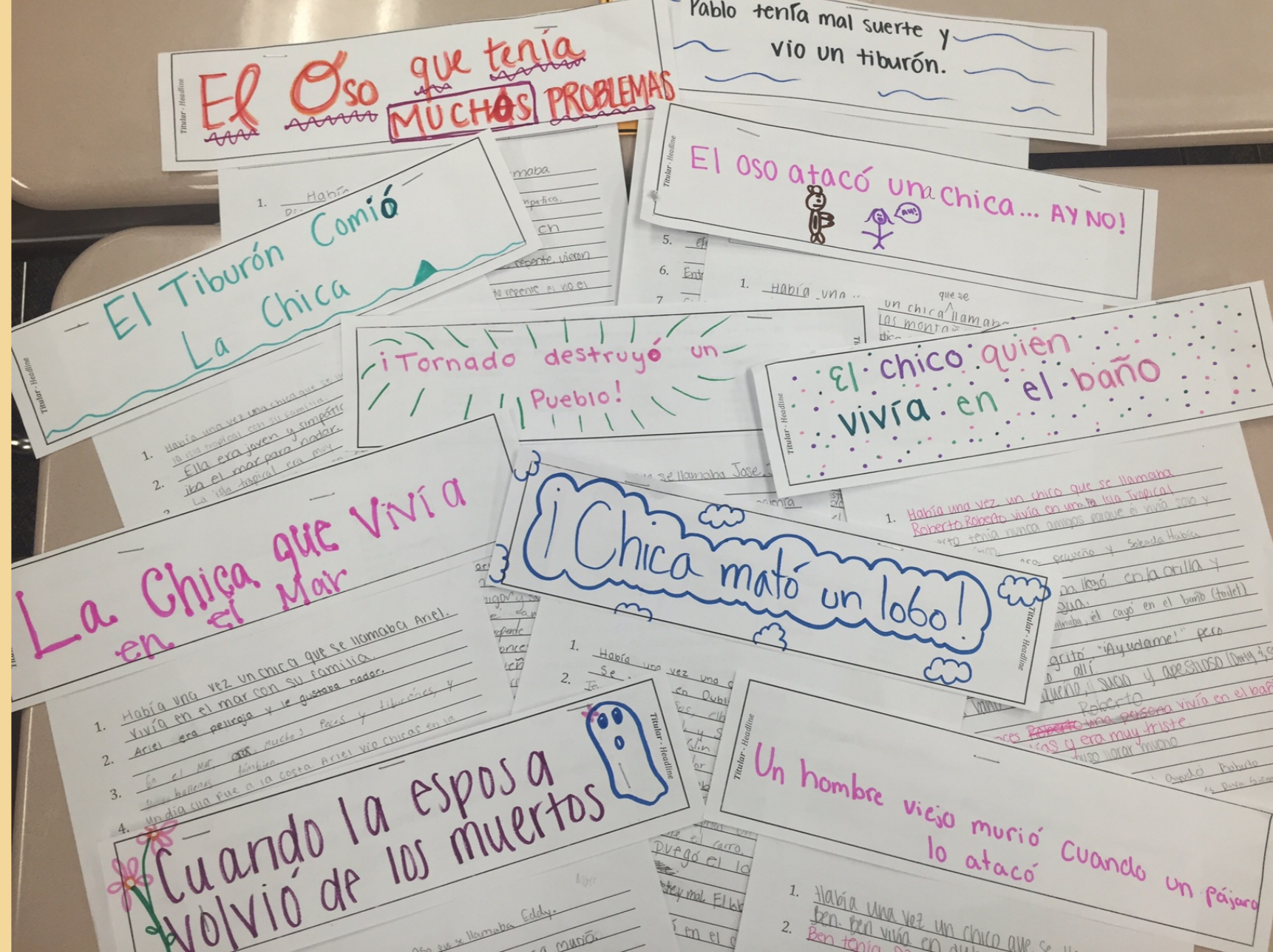
Students read a story and then wrote a headline in Spanish that summed up what the story was about. On the back of their strip, students provided 2---3 statements in Spanish that summarized the story (using the past tense!).

HEADLINES ROUTINE
A routine for capturing essence

Handout Alert!

This routine draws on the idea of newspaper-type headlines as a vehicle for summing up and capturing the essence of an event, idea, concept, topic, etc. The routine asks a core question:

1. If you were to write a headline for this topic or issue right now that captured the most important aspect that should be remembered, what would that headline be?

A second question involves probing how students' ideas of what is most important and central to the topic being explored have changed over time:

2. How has your headline changed based on today's discussion? How does it differ from what you would have said yesterday?

Purpose: What kind of thinking does this routine encourage?

This routine helps students capture the core or heart of the matter being studied or discussed. It also can involve them in summing things up and coming to some tentative conclusions.

Application: When and where can it be used?

This routine works especially well at the end of a class discussion or session in which students have explored a topic and gathered a fair amount of new information or opinions about it.

Launch: What are some tips for starting and using this routine?

The routine can be used quite effectively with think-pair-share. For example, at the end of a class the teachers can ask the class, "Think about all that we have been talking about today in class. If you were to write a headline for this topic or issue right now that captured the most important aspect that should be remembered, what would that headline be?" Next, the teacher tells students, "Share your headline with your neighbor." The teacher might close the class by asking, "Who heard a headline from someone else that they thought was particularly good at getting to the core of things?"

Student responses to the routine can be written down and recorded so that a class list of headlines is created. These could be reviewed and updated from time to time as the class learns more about the topic. The follow-up question, "how has your headline changed or how does it differ from what you would have said? can be used to help students reflect on changes in their thinking.
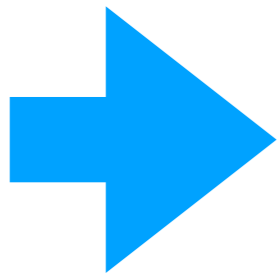
Five Words
to Change Your Life

WHAT MAKES YOU SAY THAT?
(aka WMYST)

Making Thinking Visible:
A Thinking Conversation

Ryan: It looks *scary.*

Fred: What makes you say that?

Ryan: My head! My brain!

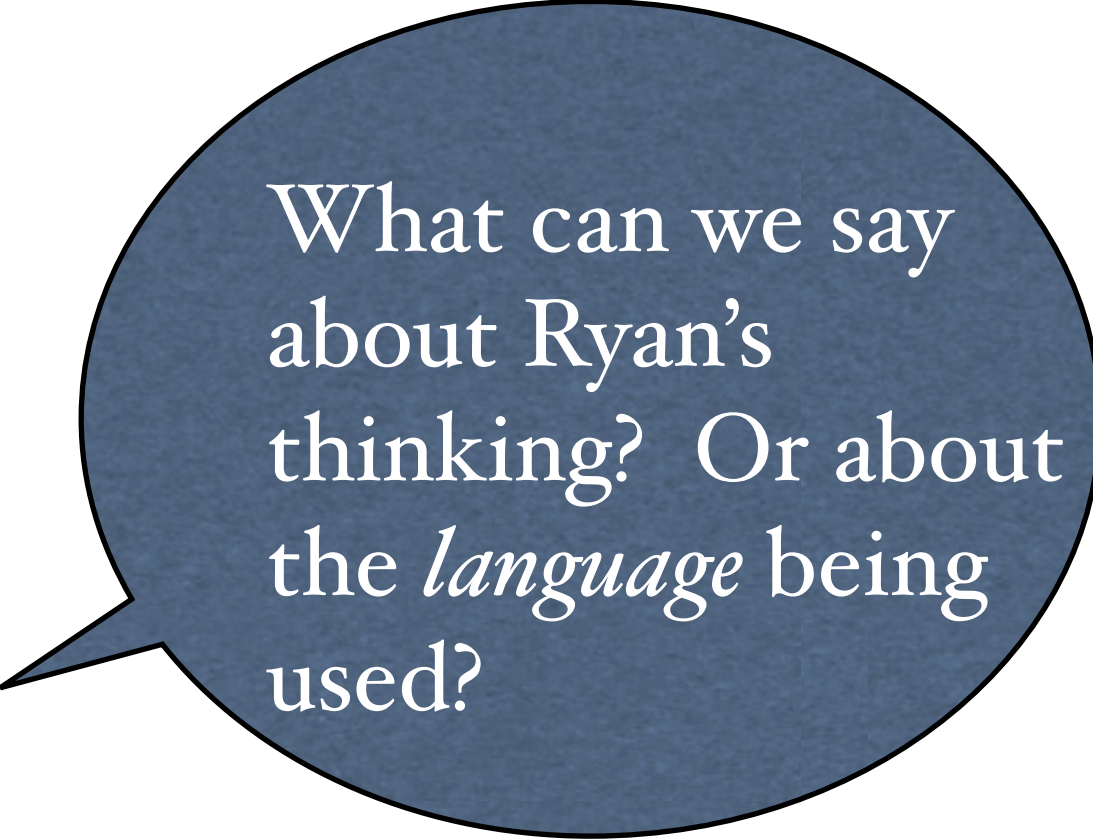F: Right, but WMYST it's scary?

R: Well, because it's teeth are really *sharp.*

F: What else makes you say that?

R: Well...his eyes are dark. This one isn't scary.

F: WMYST?

R: These aren't monsters. They're people because I can see their feet. It does kind of freak me out though.

What can we say about Ryan's thinking? Or about the *language* being used?

WHAT MAKES YOU SAY THAT?
Interpretation with Justification Routine

Handout Alert!

> 1. What's going on?
>
> 2. What do you see that makes you say that?

Purpose: What kind of thinking does this routine encourage?

This routine helps students describe what they see or know and asks them to build explanations. It promotes evidential reasoning (evidence-based reasoning) and because it invites students to share their interpretations, it encourages students to understand alternatives and multiple perspectives.

Application: When and where can it be used?

This is a thinking routine that asks students to describe something, such as an object or concept, and then support their interpretation with evidence. Because the basic questions in this routine are flexible, it is useful when looking at objects such as works of art or historical artifacts, but it can also be used to explore a poem, make scientific observations and hypothesis, or investigate more conceptual ideas (i.e., democracy). The routine can be adapted for use with almost any subject and may also be useful for gathering information on students' general concepts when introducing a new topic.

Launch: What are some tips for starting and using this routine?

In most cases, the routine takes the shape of a whole class or group conversation around an object or topic, but can also be used in small groups or by individuals. When first introducing the routine, the teacher may scaffold students by continually asking the follow-up questions after a student gives an interpretation. Over time students may begin to automatically support their interpretations with evidence with out even being asked, and eventually students will begin to internalize the routine.

The two core questions for this routine can be varied in a number of ways depending on the context: What do you know? What do you see or know that makes you say that? Sometimes you may want to preceded students' interpretation by using a question of description: What do you see? or What do you know?

When using this routine in a group conversation it may be necessary to think of alternative forms of documentation that do not interfere with the flow of the discussion. One option is to record class discussions using video or audio. Listening and noting students' use of language of thinking can help you see their development. Students words and language can serve as a form of documentation that helps create a rubric for what makes a good interpretation or for what constitutes good reasoning.

Another option is to make a chart or keep an ongoing list of explanations posted in the classroom. As interpretations develop, note changes and have further discussion about these new explanations. These lists can also invite further inquiry and searches for evidence. Other options for both group and individual work include students documenting their own interpretations through sketches, drawings, models and writing, all of which can be displayed and revisited in the classroom.

Other Routines, Other Examples
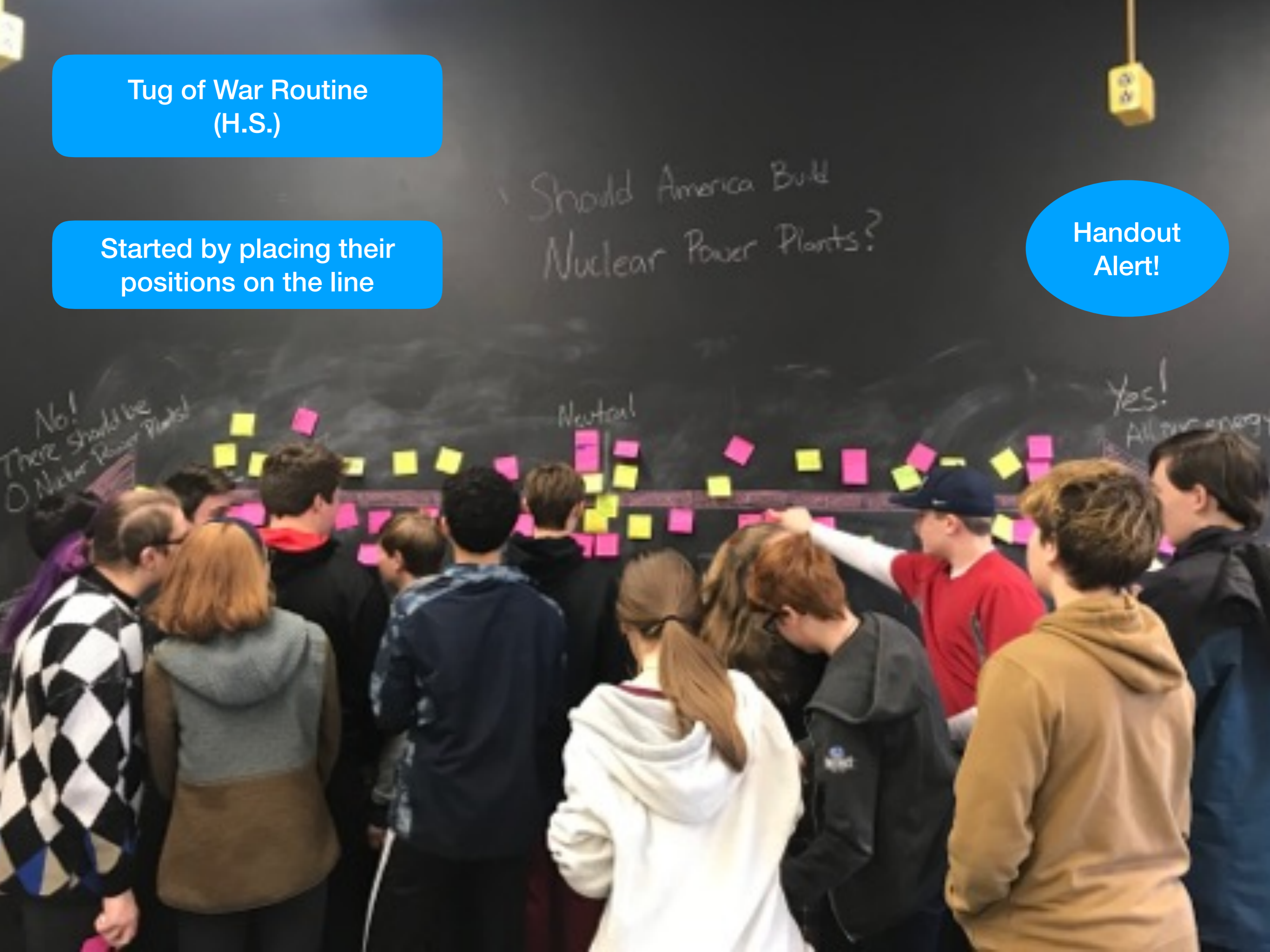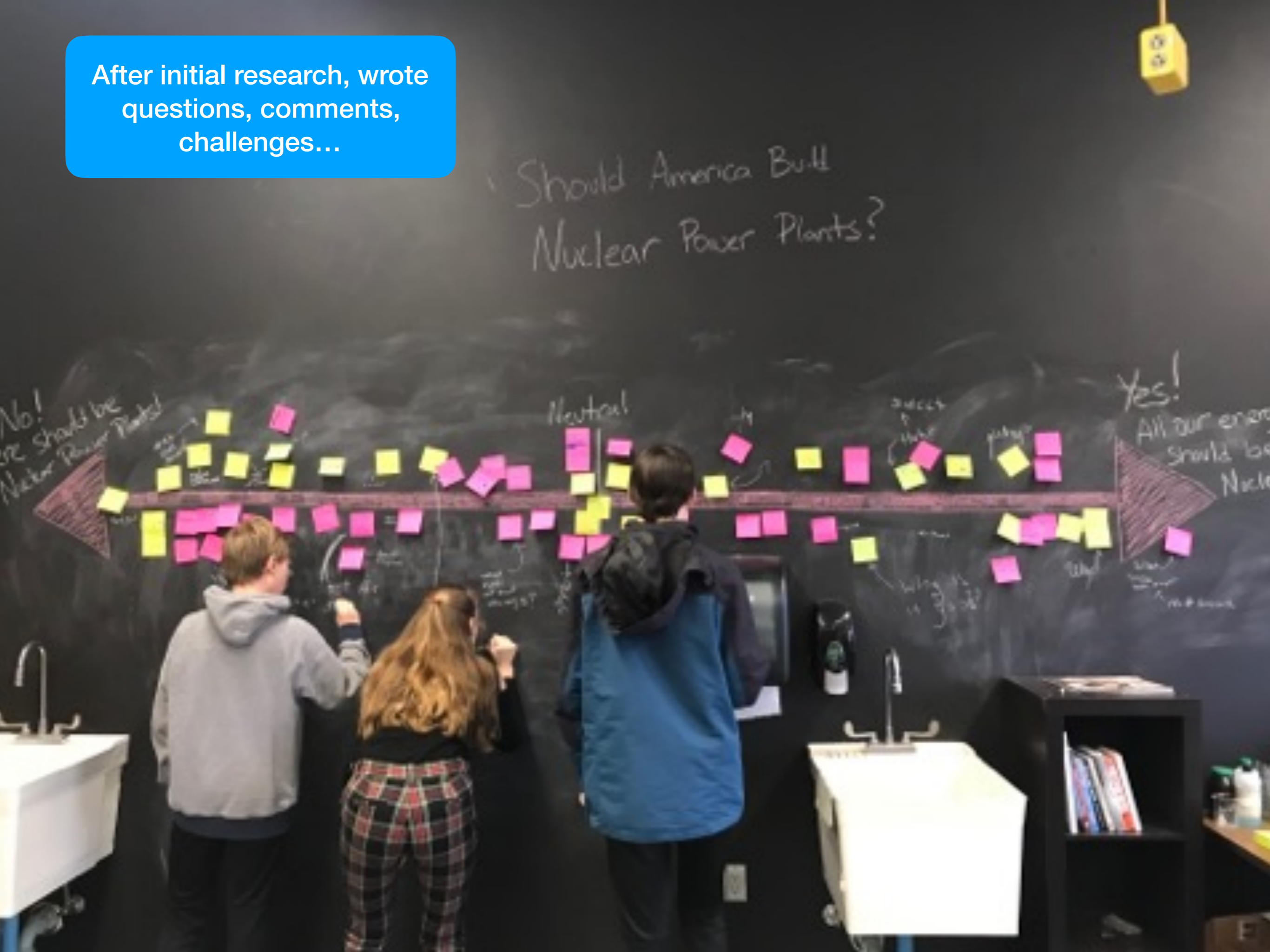
Caleb Evans
Grandview HS
Science Teacher
Tug of War

"I wanted to see how their thinking changed and evolved as new data came in. This became the basis for a paper they were to write. Many were for it…

…but when I informed them later that they would be building it in our community, they said "No"!
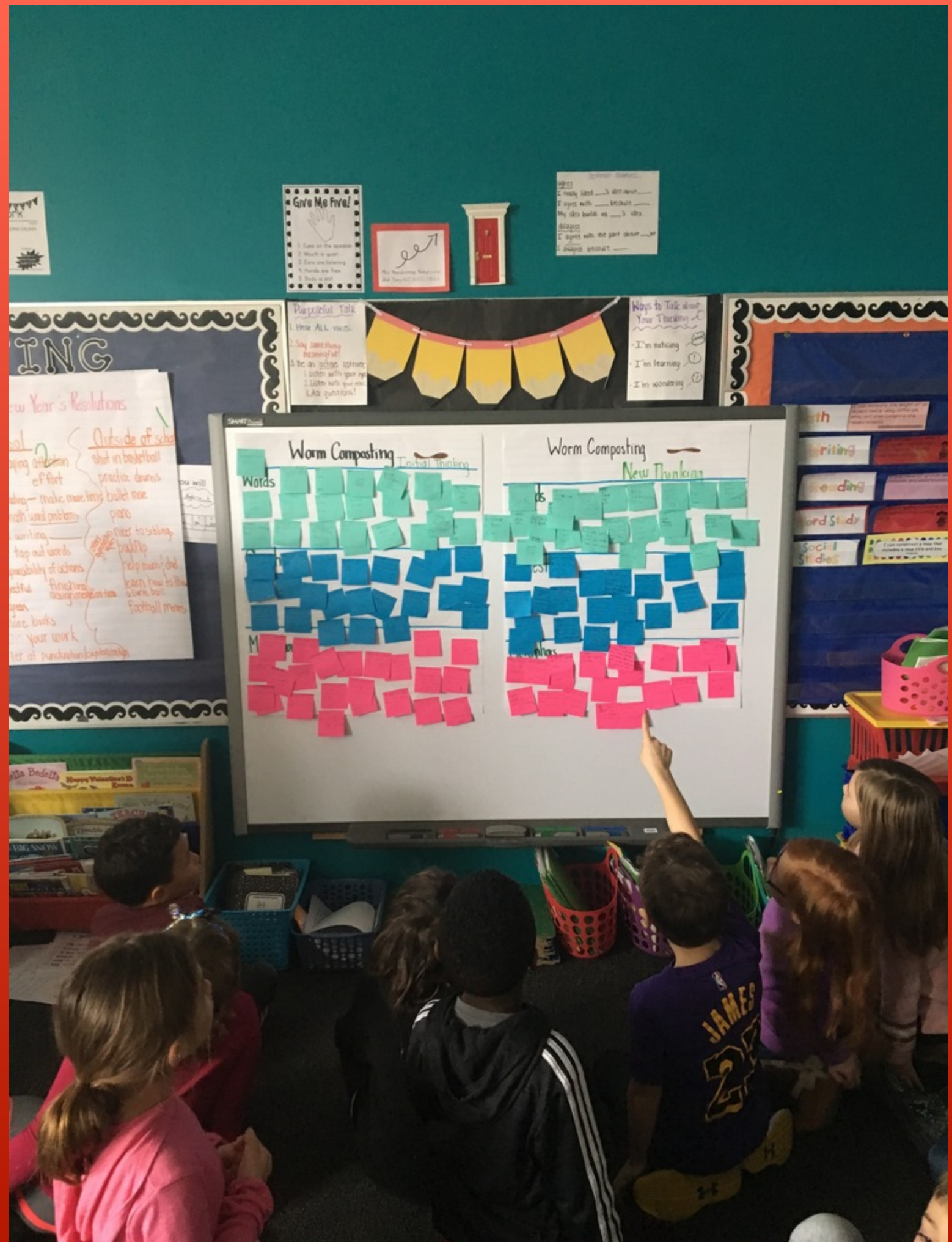
3-2-1 Bridge

3 Words
2 ?s
1 metaphor

Worm Composting

Handout
Alert!

Jill Kendall
2nd Grade
Arrowhead elem

Words   iyAnna

Small
squishie
cutie

Words

Cucons

Soil

mucus

Rileigh

1. Why don't they have bones?

2. Why do they Make Macas

Lui

what do worms to? where do worms live?

Questions

Luis

what contry does
the biggest worm
live in? what does
the biggest worm
look like?

l. a worm is like a slime rad in the Dirt.

Winn

They remmind me of famley Mibors.

monika

Metaphor or Simile

Arrowhead Elementary
Jill Kendall
Second Grade Teacher

"I did have a success and I can't wait to use it again! We are starting to learn about how living things are helpful (or harmful) to our environment. We have a great program called Bring the Farm to You where we actually get to have a interactive worm compost bin shared between classrooms. To prep students for this, we used the 321 Bridge Activity! I had students chart their thinking on post it notes. We made an initial chart (left) and a new thinking chart. The green represents the words that came to their mind about worms, the blue represented the questions and the pink represented connections. They were so excited to share their thinking and I was blown away by the questions they had."
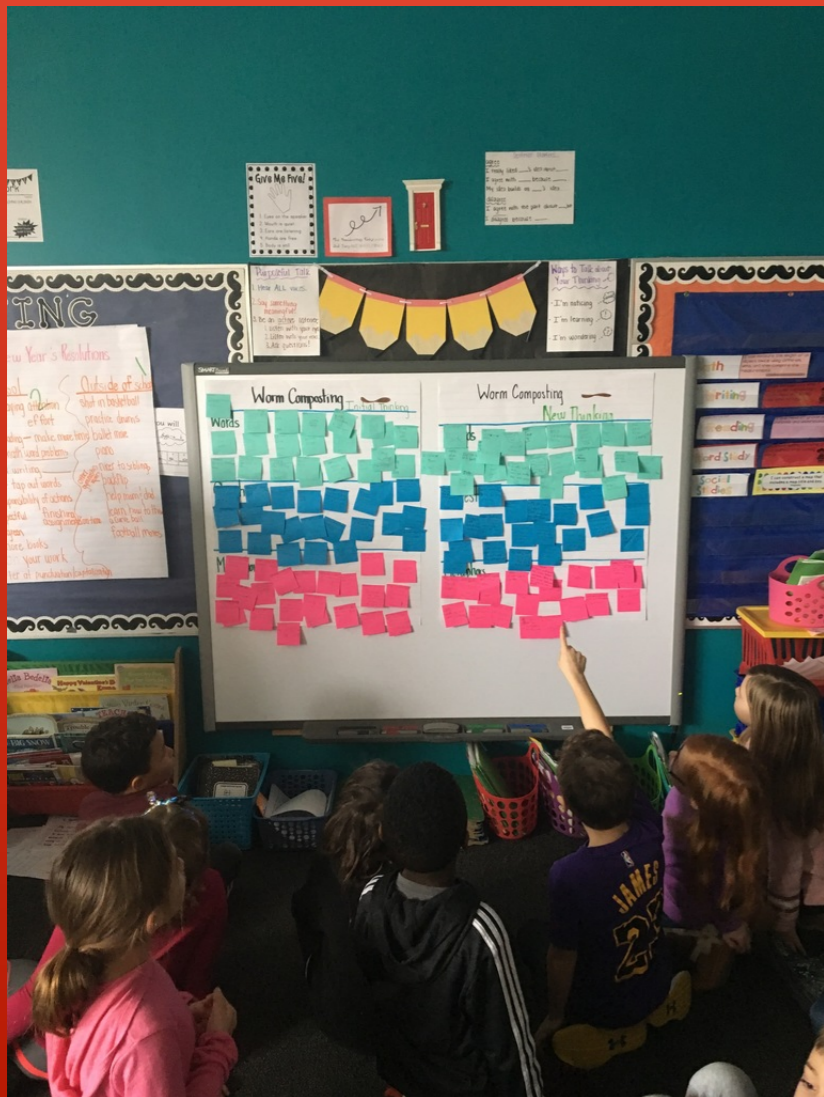
At the end of the lesson when we connected the prior knowledge with their new knowledge, the takeaways were incredible! Students recognized that they were more descriptive and selective with the words that they chose, specifically noting the new vocabulary they learned for example initially they put worms were slimy and their new thinking they actually named the slime. One student commented, "My questions became answered by the farmer, which then led me to new questions because of her answers." The picture I captured shows their excitement to share their thinking.

Three Routines, One Image

See-Think Wonder
The Three Whys
Story Routine

See-Think-Wonder
(partner/small group)

The 3 "whys" Global Thinking Routine

Why might this matter to me?

Why might this matter to my community?

Why might this matter to the world?

With partner

The Story Routine: Main, Side, and Hidden

A routine for exploring the complexity and depth of an incident, document, painting or photograph

After closely looking at or reading the source document, identify and begin to elaborate on:

1. What is the *main* or central story being depicted or documented?

2. What is the *side* story (or stories) happening on the sidelines or around the edges that may not necessarily involve the main characters?

3. What is the *hidden* story—that other story that may be obscured, neglected, or happening below the surface that we aren't readily aware of initially?

Purpose: What kind of thinking does this routine encourage?

This routine helps students dig into events and explore documents in more depth by constructing different narratives related to those events. This may raise new questions of inquiry and wonderings to be explored. The routine also encourages students to identify additional points of view, beyond those of the central characters, which might not be fully represented or portrayed.

Application: When and where can it be used?

This routine asks students to identify and begin to tell multiple narratives stemming from a photograph they are looking at, a story they are reading, a work of art they are examining, an historical event being discussed, or a newspaper account under review. Use this routine when you want to go beyond the main story itself or want to explore new perspectives or alternative accounts of events, perhaps of marginalized actors. The main story is that which is being centrally presented and often the purpose or main intent of the account or image. Often instruction stops with the main story, but that needn't be the case. The side story encourages learners to look at what may be happening on the sidelines and to explore the perspective of those supporting the story and impacted by it but perhaps not playing one of the major parts. Alternatively, a side story might be the action happening right alongside the main event but is being overshadowed by it. The hidden story or the other story usually doesn't present itself directly. One needs to go beneath the surface to identify what isn't being stated, what is obscured, or what perspective isn't being heard or seen.

Launch: What are some tips for starting and using the routine?

To uncover these narratives requires both looking closely and looking beyond. As such, it may be useful to combine this routine with See-Think-Wonder, focusing on the See and Think steps to identify the main story as well as what might be happening on the sides. Wonderings could them explore the possible hidden stories. Alternatively, three columns (Main, Side, Hidden) could be drawn on the whiteboard and the class could identify the characters that exist for each section. Once the characters are identified, events and actions can be charted for each column as well. Using this information, students can then craft their own versions of the main, side, and hidden story either orally or in writing. Such accounts would be based on the information identified but enhanced by details that are creatively imagined to produce a work of historical fiction. Alternatively, students might select an emerging side or hidden story to research and present this factual information to the rest of the class to help in understanding the complexity of the event being explored.

Handout Alert

Thinking Routine Toolbox

HARVARD
GRADUATE SCHOOL OF EDUCATION

PZ

PROJECT ZERO

SUPPORT PZ'S REACH

Who We Are   Topics   Projects   Resources   Professional Development

Project Zero's Thinking Routine Toolbox

Welcome to **Project Zero's Thinking Routines Toolbox**. This toolbox highlights Thinking Routines developed across a number of research projects at PZ. A thinking routine is a set of questions or a brief sequence of steps used to scaffold and support student thinking. If you're new to thinking routines and PZ's research, **please click here to explore more about thinking routines**.

Thinking Types

| CORE THINKING ROUTINES | POSSIBILITIES & ANALOGIES |

| PERSPECTIVES, CONTROVERSIES & DILEMMAS | OBJECTS & SYSTEMS | PERSPECTIVE TAKING |

| WITH ART OR OBJECTS | DIGGING DEEPER INTO IDEAS | SYNTHESIZING & ORGANIZING IDEAS |

| INTRODUCING & EXPLORING IDEAS | GLOBAL THINKING |

by Teaching Subject...   by Thinking Disposition or Competence   by Project...

Resource List

Once upon a time…

Where's Wonder and Curiosity?

Joy
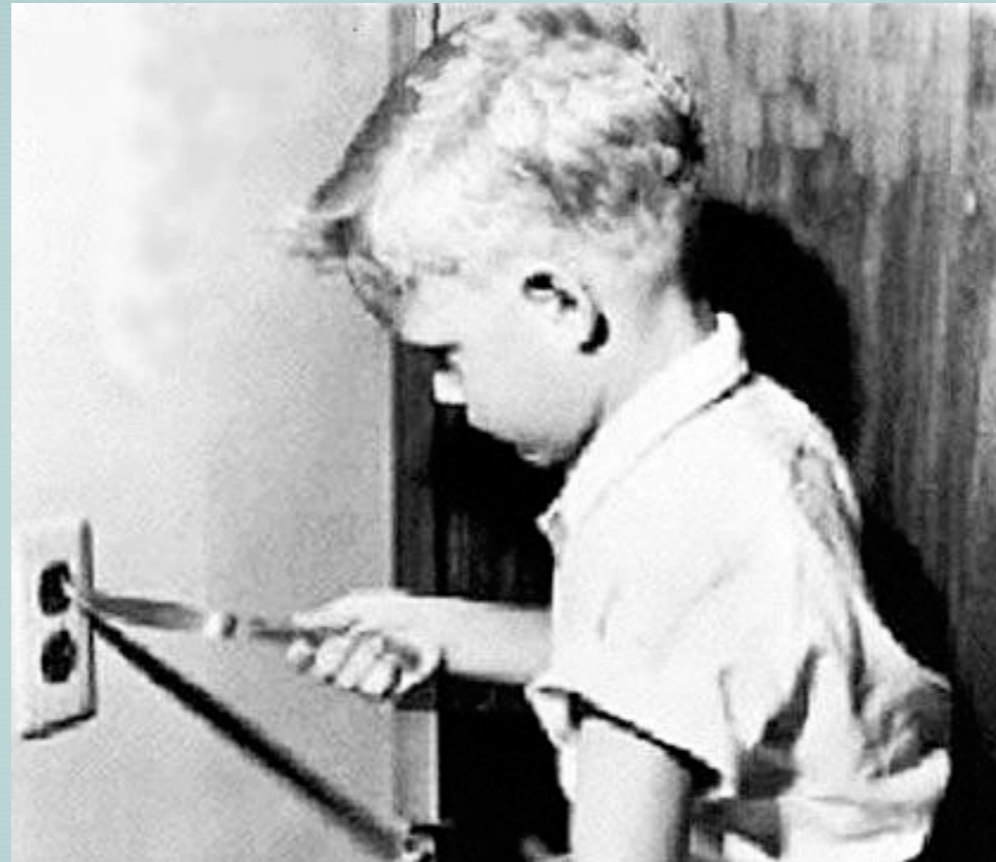
Passion

Imagination

Sean Foley's senior class in painting

"Is this the right way, Mr. Foley?"

"Is it ok to do this?"

This is a museum educator leading a discussion about a painting…

Kids say things like: "Crazy swirls!" "My bedroom?"

"I wonder if the artist was lonely?"

Teacher steps in and says: "Ok kids, enough of that…"(then explains painting)

"It turned out to be impossible…because there was such an astonishingly low rate of curiosity in *any* of the classrooms we visited." p.633

Harvard Educational Review

Why?

CANCELLED!!
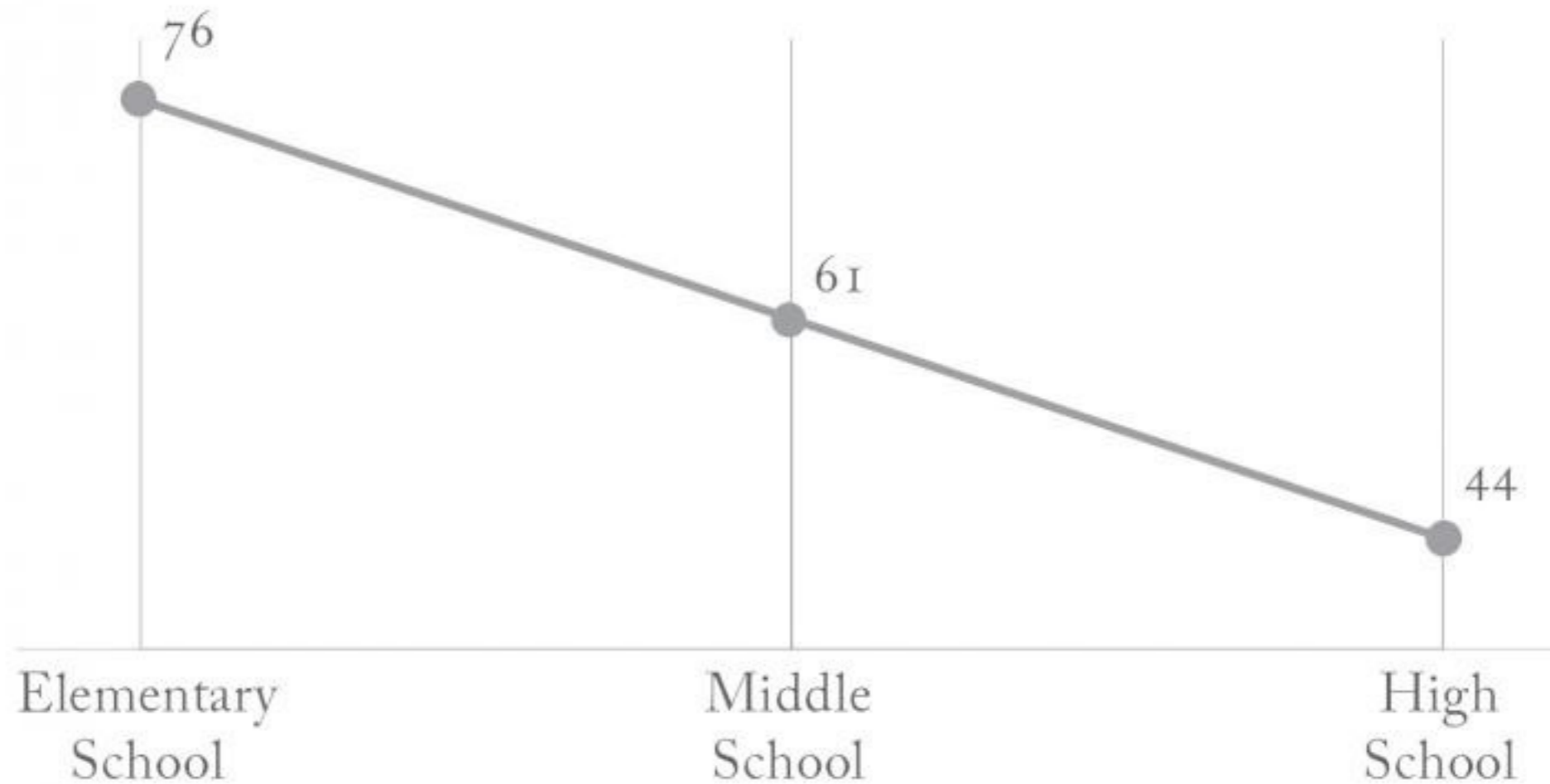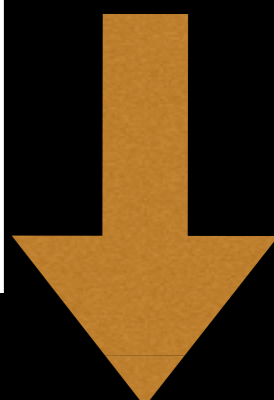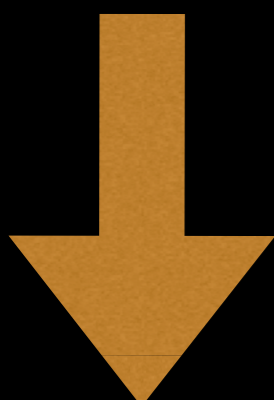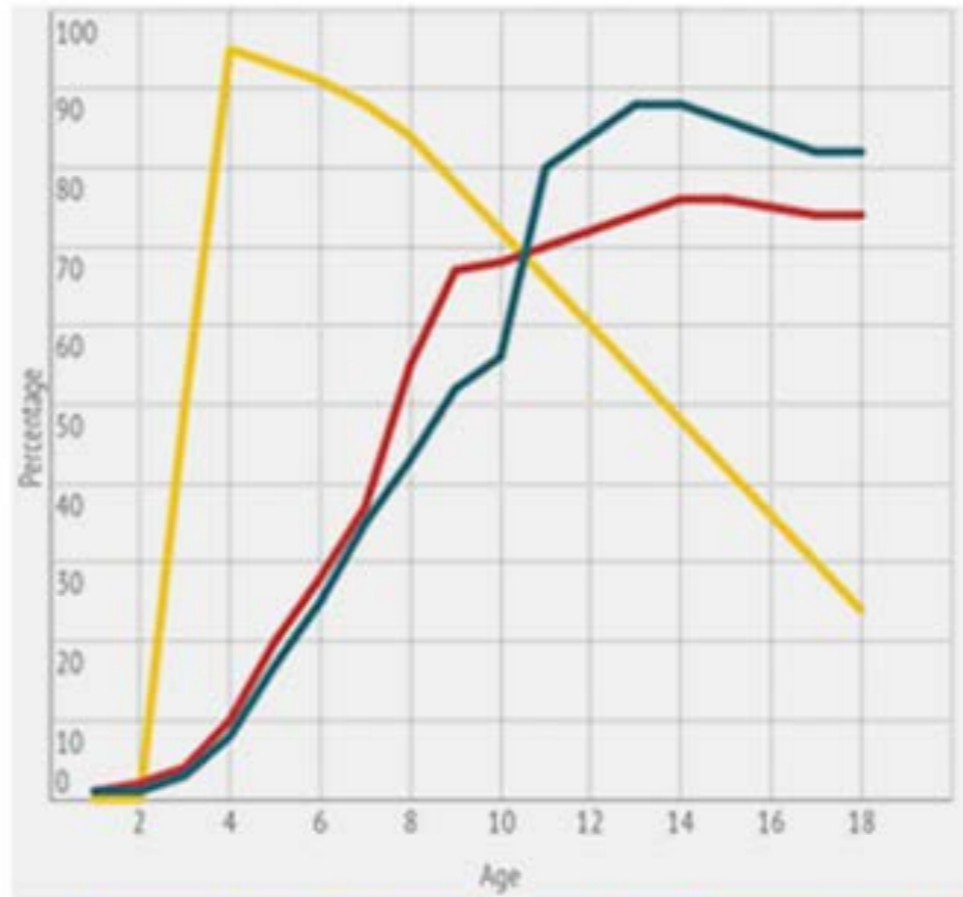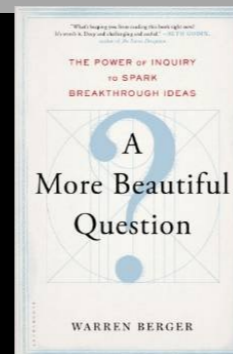
Power of a Question

"Can a grasshopper and cicada be friends?"

Tuition:
$73,220

Grades
9-12

June…Science scores B+ average

September…   Science scores F

Evan Penny, *Back of Kelly*

We are built to *look, wonder, be curious*

Wandering **can lead to wonder…**

David Hawkins… "messing about"
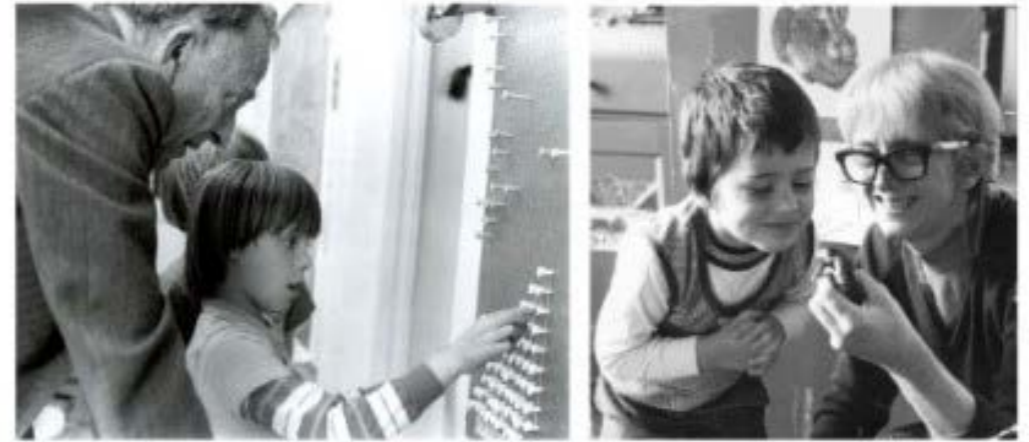
"Sometimes when kids look like they're daydreaming, it's because they are, and we can't allow that possibility."
WSJ

SUCCESS
ACADEMY
CHARTER
SCHOOLS

Eva Moskowitz

False Dichotomy: Content or Thinking Processes

WRONG WAY GO BACK

Focus on measurable content not enough…

How do we build & support a Culture of Thinking?

- Modeling
- Opportunities
- Routines
- Expectations

Language

- Interactions
- Time
- Environment
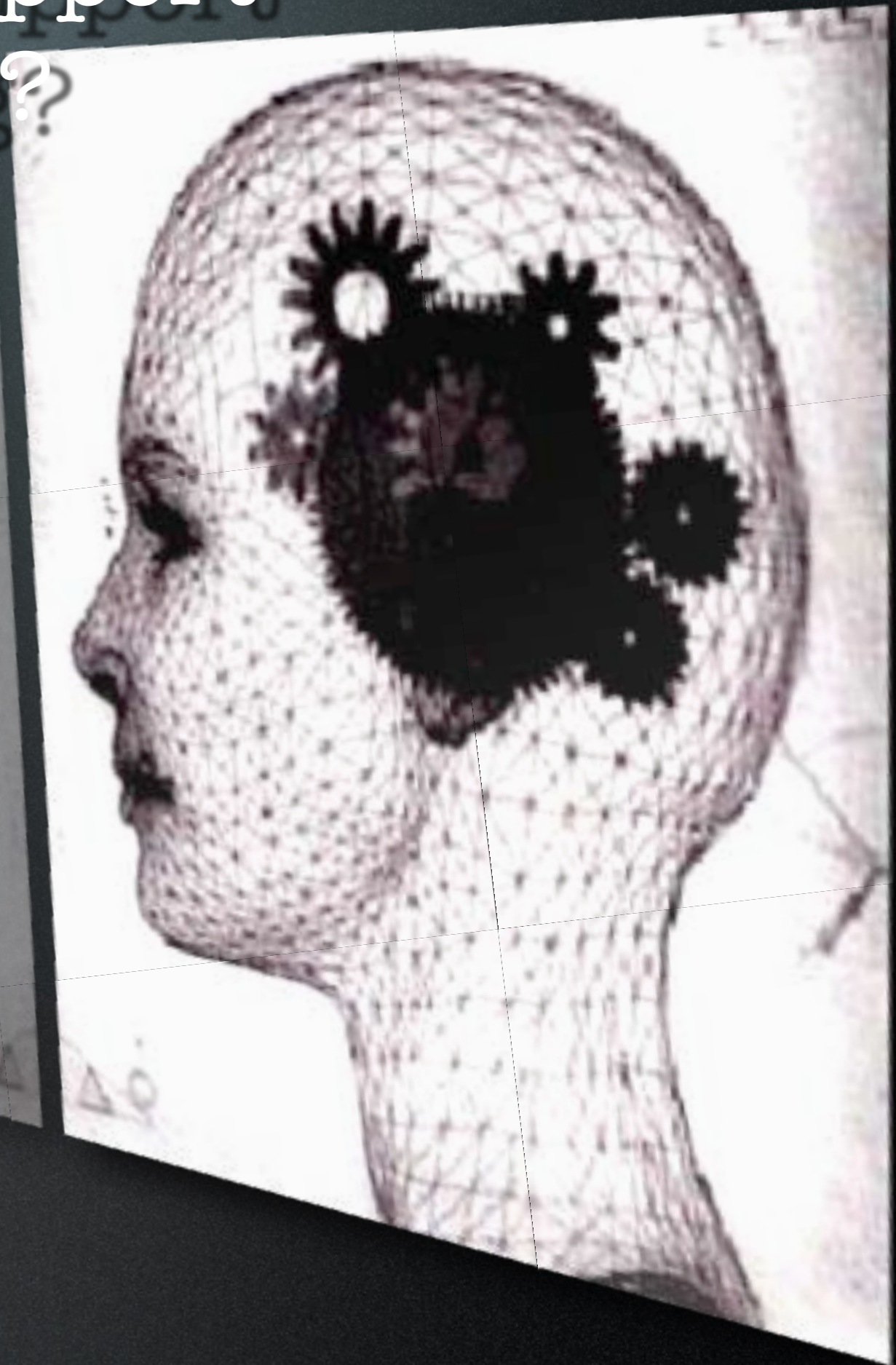
5 Things You Can Use on Monday

To create more thinking in your classrooms

#1
Never work harder than your students

Who do you want to do most of the thinking?

"My questions were the problem. And not the questions themselves, as they were of the highest levels of Bloom's/ Depth of Knowledge levels, but the fact they were mine. They were what I discovered, what I focused on, what seemed relevant to me. I succeeded in showing students what I connected to from the reading, but they were not practicing these skills; I was. And as we know, when the teacher is doing the thinking and the creating, then the teacher is the one doing the learning. Not the students."

Maria, HS English

#2
Use this <u>one</u> phrase to increase thinking

WMYST

"What makes you say that?"

#3
Say what?

Practice using these teacher language stems…

Handout Alert!

20 Questions

#4
Wait 4 seconds

Mary Bud Rowe Research: less than 1 second

Grad Class: 5 ?s in 6 seconds

Who was the main character?
What was she doing?
And do you agree?
Or disagree?
What might happen next?

"Just take your time and think about it…"

W.A.I.T.

Why Am I Talking?

W.A.I.S.T.

Why Am I *Still* Talking?

#5
Plan for Thinking

Understanding Framework When Planning

Handout Alert!

Reason with evidence

Why do you think so?

Consider different Viewpoints

What's another angle on this?

Make connections

How does this fit?

Wondering

What am I curious about here?

Understanding

Uncovering Complexity

What lies beneath the surface of this?

Describe what's there

What do you see and notice?

Build Explanations

What's really going on here?

Capture the heart and form conclusions

What's at the core or center of this?

Planning for Thinking...Questions that cue cognitive ACTION

Bonus Item #6
After planning for thinking…

*Use language to…notice and name, that thinking

Good Job, Kevin!

Praise the Thinking Process

"I like how you focused on rigorous looking and describing"

Language Conversation Questions

It's our medium

Languages of Teaching Thinking
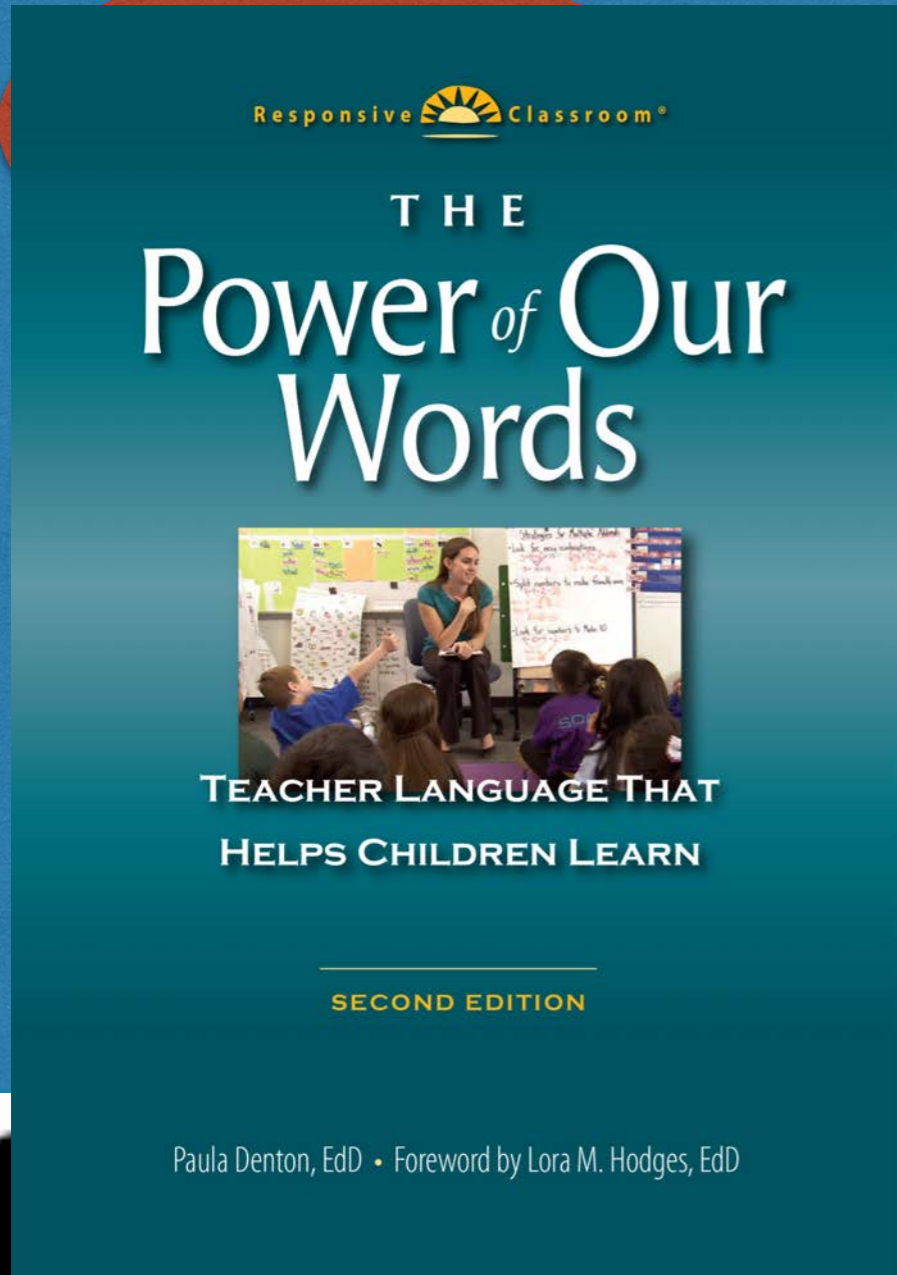
Thinking

Praise
Feedback

Listening
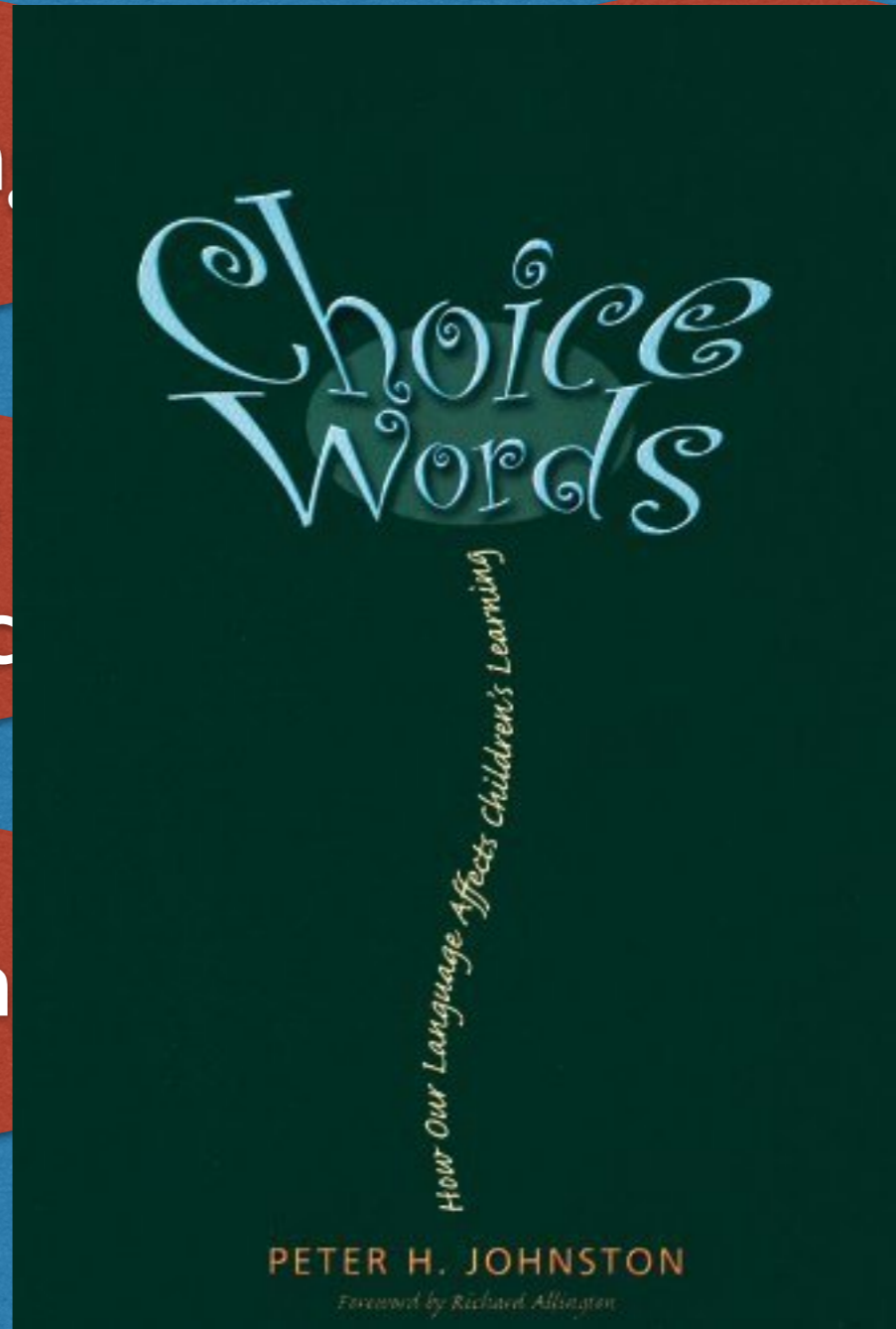
Bonus Item #7

Use more "Conditional" Language Than "Absolute" Language

Language of Community

Daniel Wilson

Study of Extreme Sports

Engaging Students

Ellen Langer: What cues people to be more *mindful vs mindless?*

"Conditional" vs "Absolute" Language

Math: "This is how to solve that problem"

Math: "This is <u>one</u> way to solve that problem"

Language of "Community" Example

Pronouns: "we", "us", "our"
vs
"I" and "you"

The Reflective Toss

Priority is to "catch" the meaning of a student's words

Then "toss" the responsibility for thinking back to the individual or group

The Reflective Toss

Examples Verbal "Tosses" You Could Use:

"What does that tell you then?"

"What were you basing that line of thought on?"

"How might we build on, extend, challenge Kevin's thinking?"

Power of the Group

Things you can say to *empower* learners…

o How did you do that?
o How else could you have done that?
o Who did that a different way?
o What was hard about doing that?
o What could you do when you are stuck on that?

o How could you help someone else do that?
o What would have made that easier for you?
o How could I have taught that better?
o How could you make that harder for yourself?

Bonus Item #9

Build the Wall!
And who is going to pay for it?

(nobody, it's free)

Middle Ages

Engagement

Math Lies

Climate Change

Empowerment

Author

Wonder Wall as a springboard…

Sarah Redick

7th grade Science…
Creating Ring Tones and expecting to "create" and "struggle" and "slow building questions"
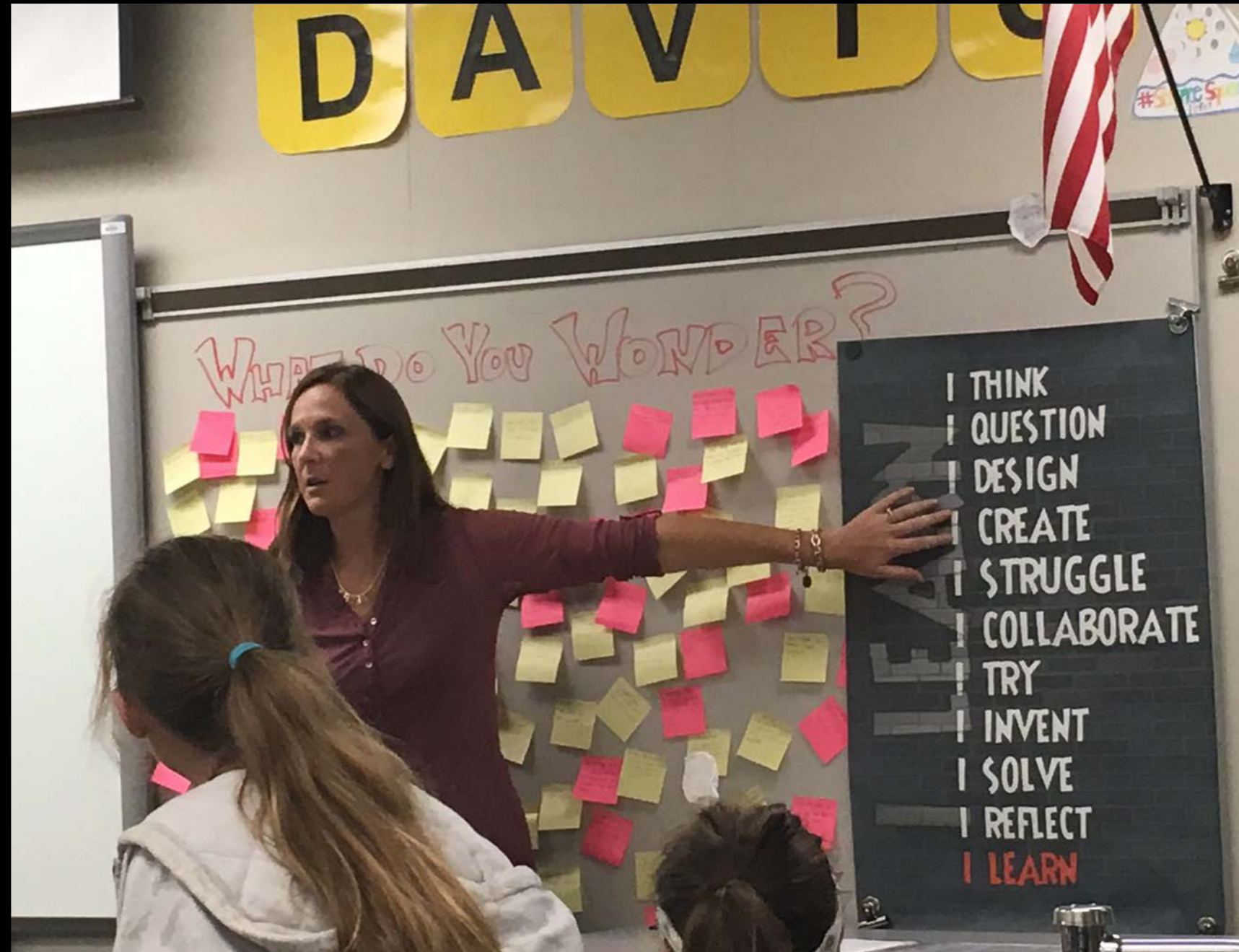
But none of this works without…?

Listening!

Listening!

Also key to sustaining a "learning conversation"
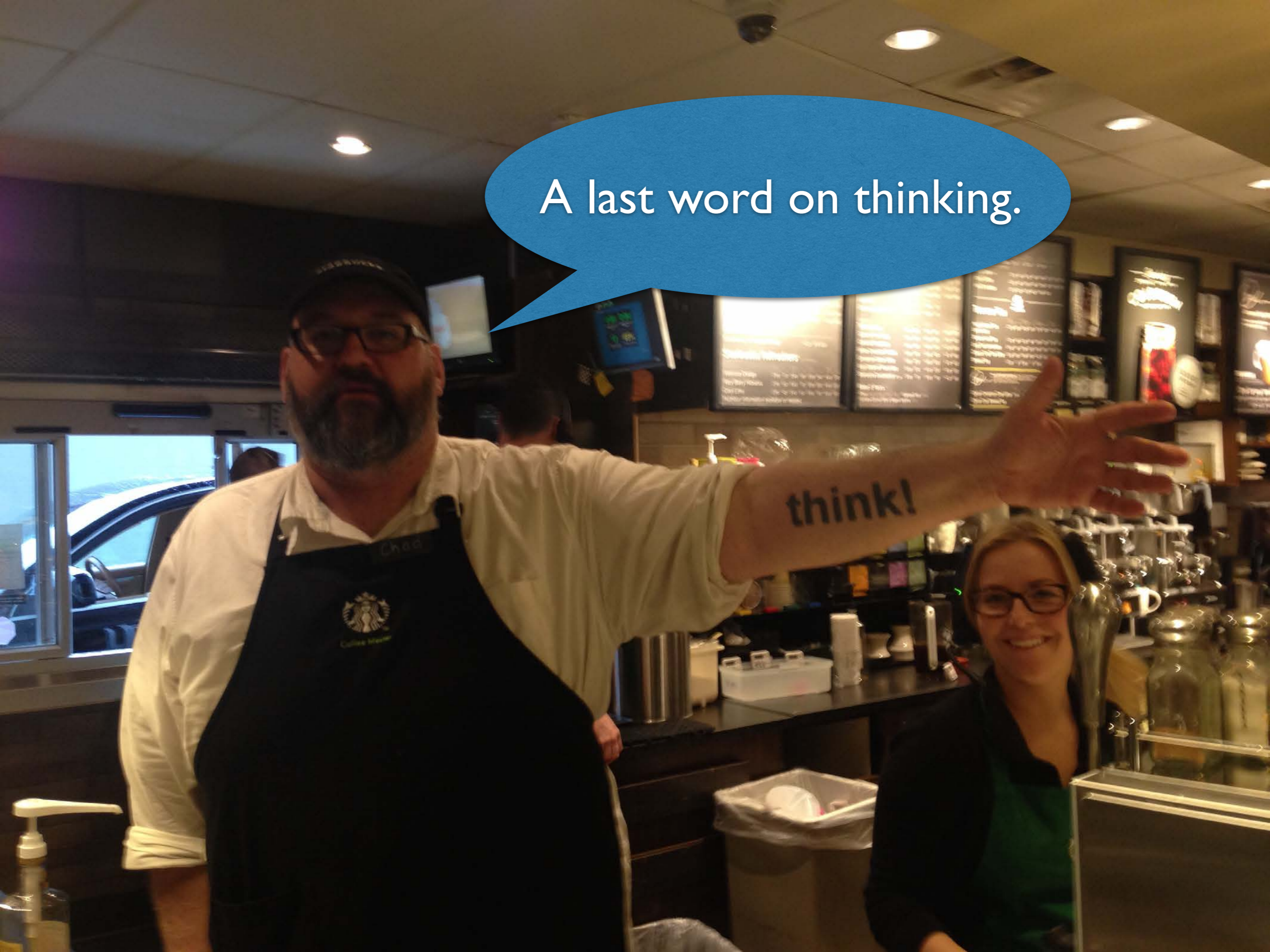
Dow Chemical CEO
"We have an intern program where we get the best and brightest hs interns in the US. In the last several years, we've noticed when we give these students a problem, they get frustrated and shut down when they don't know the answer."

"We have to remind them, that in the real world of chemistry, we don't work on problems that we already know the answer to"

Dow Chemical CEO
"The problem is that schools focus so much on preparing kids for tests and knowledge (which is important), but it's not enough...they need to be able to *think*."

What is thinking?

A few thousand students

When someone tells you they are "thinking", what might be going on in their head?

THINKING MAP

"thinking"
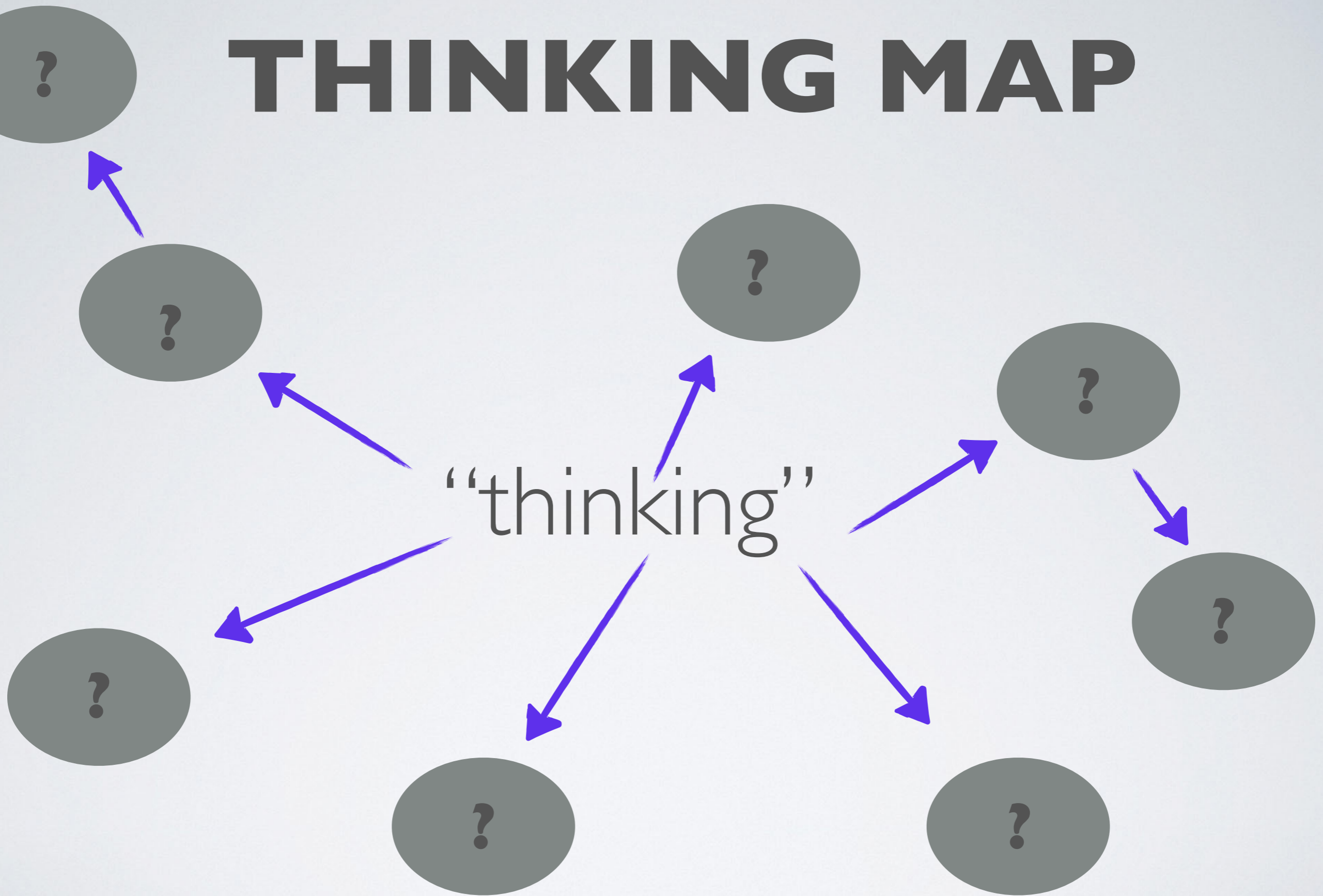
- Silence → quiet space
- "think, think, think"
- "hmmm...."
- rest head on hand (sideways)
- tapping pencil
- pondering w/ hand on chin or forehead
- tapping forehead
- eyebrow up
- closed eyes
- move to diff. positions
- head down → trying to visualize
- eyes=down, squinting

- It starts as a snowball and you gather the "snow" to compile your answer, which is the igloo.
- Reflect on a problem before it is shared
- Your brain explains how you should react
- You are thinking about how to spell words
- You reflect on what you will say
- A memory
- Sounding out unknown words
- Solving math problems step by step.
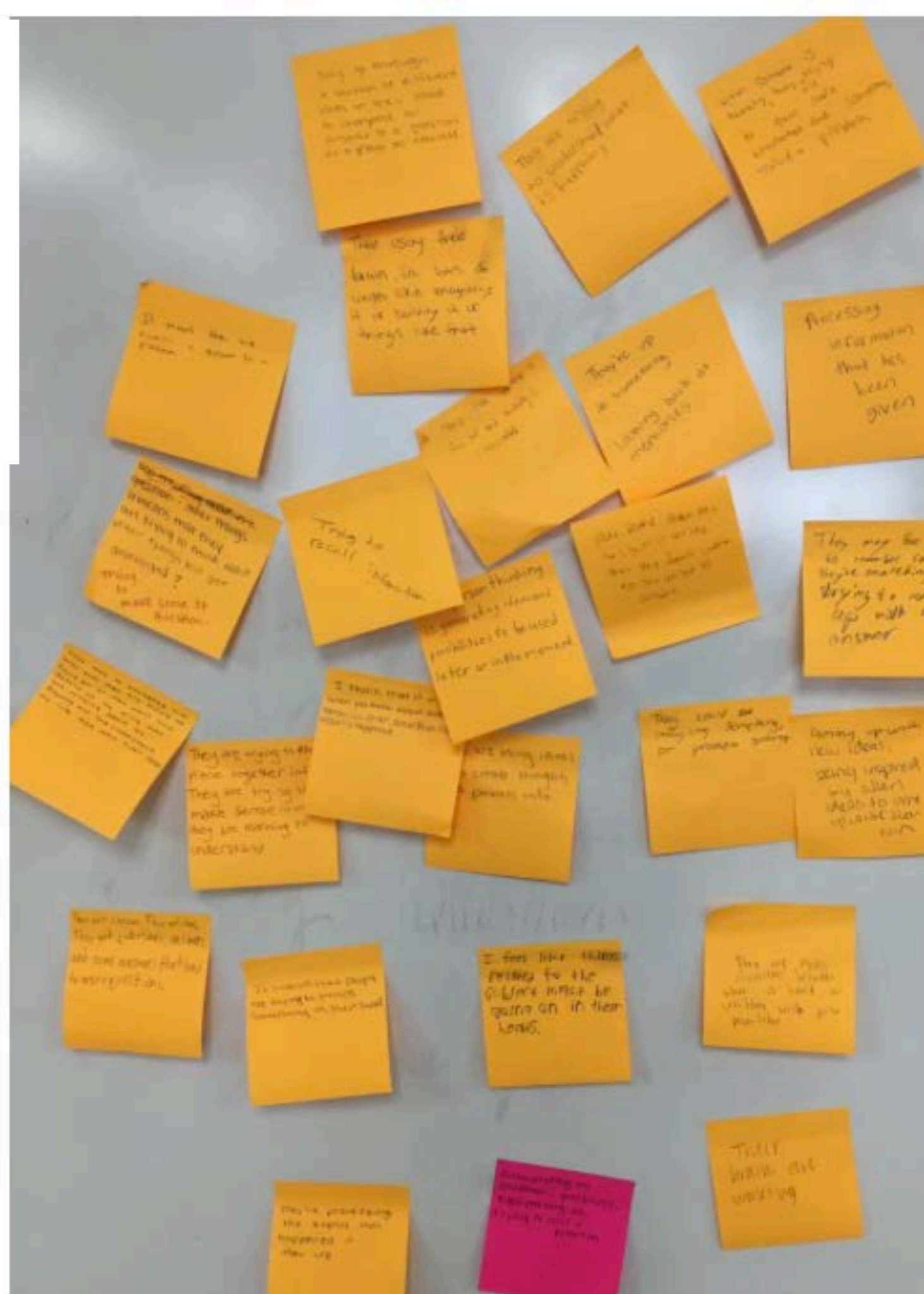
Trying to visualize something in my head x100

Pondering…wondering… ruminating x100

"It's a mind movie"

Dance party

Zone out…black out…

Anxiety…x100

Daydreaming…x100

Solving a problem x100

Imagining…x100

Trying not to offend anyone x25

When you tell someone you are thinking, what kinds of things might actually be going on INSIDE YOUR HEAD?

The Practical Kid

"I do not know, I am not in there"

Also a pattern of troubling responses that focused on…

Thinking about THE answer

Trying to get it right and not wrong

Trying not to sound dumb

Homework

Working hard to get an A+ every time I take a test

Your mind is like a chalk board, it gets filled up when you are thinking...

...then it gets erased when you move on to a new task
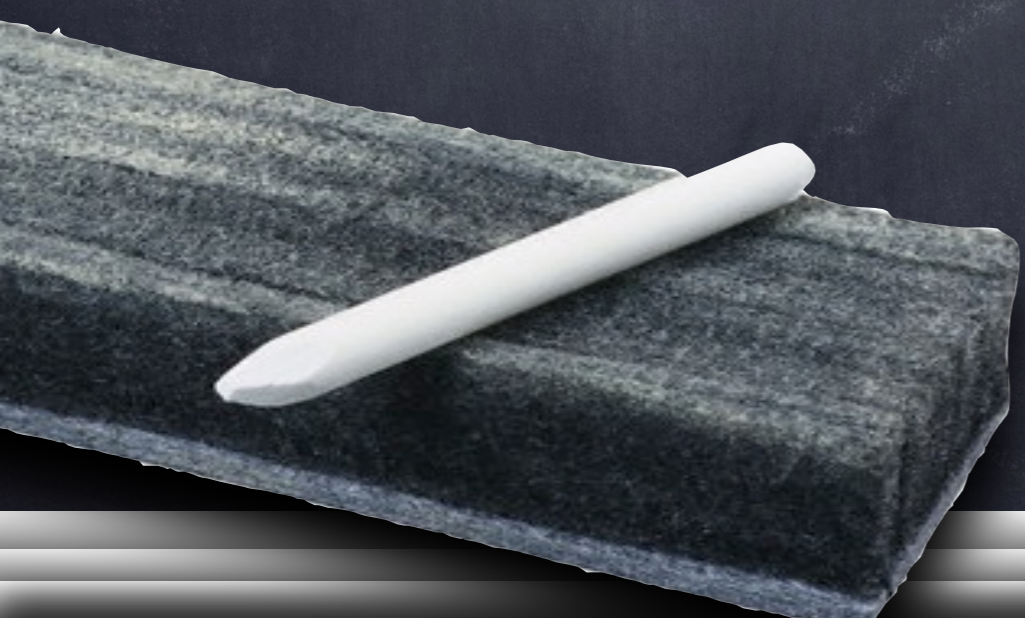
My Personal Favorite

"I'm normally doing one of a few things. In school it's to make someone stop talking and *act* like I'm in a complex thought, but

Normally I'm just thinking about pie"
Brian

Reveals the messages we are sending kids about what it means to think…not value free

Staff meeting topic

Parents definition

3 Most Important School ?s

What does it mean to be a good thinker?

How can teachers know when students are thinking deeply?

How can teachers help students become better thinkers?

The Culture Question is one that every student asks the first day of school...

Back to the Big Picture Again

What's it going to be like to be a learner in this room?

The Story
You Create
With
Students

About what really counts...

When teachers asked to describe school…

The word "work" was used 48
more times than "learning"*

Work time   Work habits

        Seat work   Home work

Extra credit work   Challenging work

*Guy Claxton, The Learning Powered School

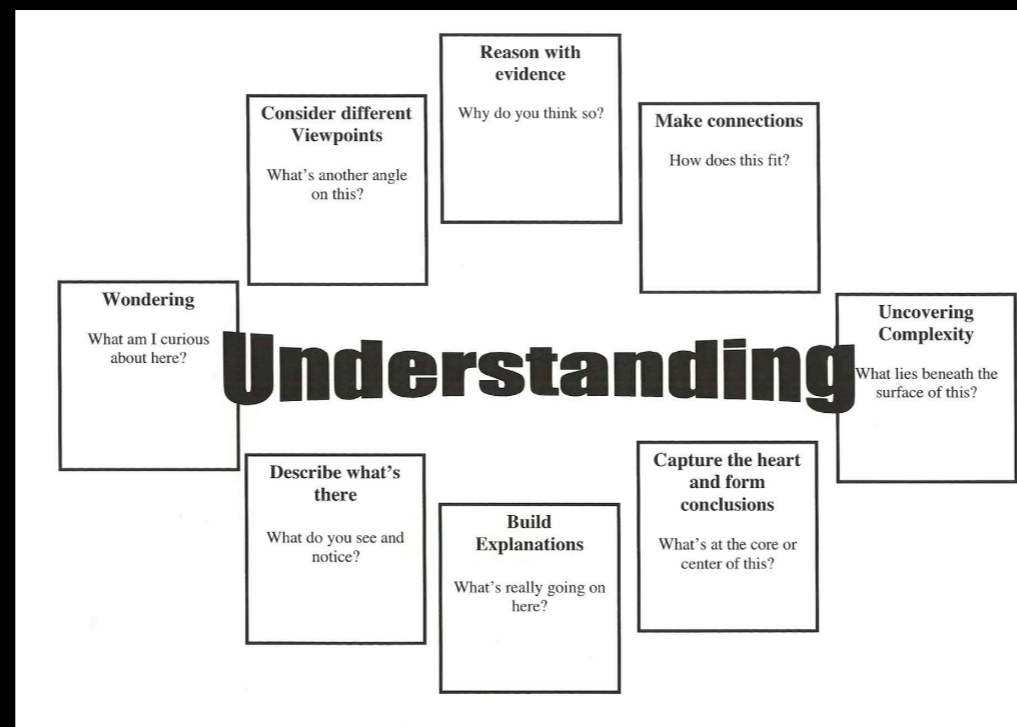Doing work is not all bad...being responsible, persevering, etc.

Doing "the work" isn't same as doing "the learning"

student "work"
vs
understanding

*Understanding Map are *high leverage thinking moves across curriculum and disciplines*

Understanding

Reason with evidence

Why do you think so?

Consider different Viewpoints

What's another angle on this?

Make connections

How does this fit?

Wondering

What am I curious about here?

Uncovering Complexity

What lies beneath the surface of this?

Describe what's there

What do you see and notice?

Build Explanations

What's really going on here?

Capture the heart and form conclusions

What's at the core or center of this?

Achievement Gap…yes but,

Relevance Gap

"Are we teaching for "Comeuppenance"?

Mean Median Mode

Deep thinking doesn't lower test scores!

I BLEW IT!

I tried something new and innovative and it didn't work as well as I wanted.

THIS COUPON ENTITLES ME TO BE FREE FROM CRITICISM.

I'll continue to pursue ways to help my students be successful.

Handout Alert!

In Closing

*A Confession...

A Confession

I Like to Lurk in Museums

Untitled Yellow
Joseph Marioni
COLUMBUS MUSEUM OF ART

LURKING and LISTENING

"I don't *get* it?"   "*I* could have done that"

"Sun"   "Metaphor"

"Wow"   Magic Words?   "What?"