

**Why you? Why this?
What brought you to this
course?**

***If you got to a place of success with
students and their thinking, learning,
and understanding, what would that be
like for you?***

Core Goal

- To develop students' thinking dispositions — *their thinking habits* — while deepening their subject matter understanding.

Core Belief

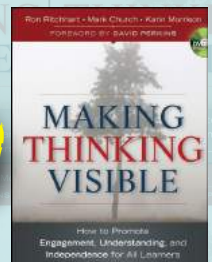
- Dispositions are developed through *enculturation* in thoughtful settings over time.

Core Question

- How do we influence and shape classroom culture to make thinking a more central aspect of classroom life?

Core Practice

- Thinking Routines and Documentation



Core Goal

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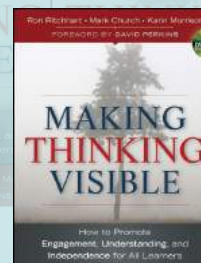
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STEPPING INSIDE A CLASSROOM

Fostering Thinking Dispositions

What strikes you?
What do you notice?

What kind of thinking dispositions does it seem this teacher wants to grow in her students? *And what makes you say that?*



Interactions

Modeling

Routines &
Structures

Language

Opportunities

Time

Expectations

Environment

HOW DOES A CLASSROOM'S
CULTURE & FORCES
STORY GET TOLD?
COMMUNICATING THE CLASSROOM'S STORY

Curiosity & Wondering

Looking Closely

Building Theories &
Explanations

Reasoning with Evidence



Routines & Structures

Modeling

Environment

Interactions

Time

Opportunities

Expectations

Language

Thinking Routines

Establishing Patterns of Thinking in the Classroom

What exactly are thinking routines, and how do they differ from strategies or activities?

How do teachers work with, make use of, and develop thinking routines over time?

What happens for students when they work with thinking routines over time?



think•ing *n*

use of the mind to form thoughts, to look closely, to reason, to make connections, to consider perspectives, to uncover complexity, etc.





rou• tine *n*

1. a pattern of behavior adopted for a particular circumstance
2. a rehearsed set of movements or actions that make up a performance

think• ing rou• tines *npl*

1. Tools, used over and over again in the classroom, that support specific thinking moves.
2. Structures through which students collectively as well as individually initiate, explore, discuss, document, and manage their thinking.
3. Patterns of behavior adopted to help one use the mind to form thoughts, reason, or reflect



Claim Support Question

Three candidates are running for mayor of Slugville. Each has determined the typical income for the people in Slugville, using this information to help in their campaigns.

Mayor Phillips is running for re-election. He says, *"Slugville is doing great! The average income for each person is \$2000 per week!"*

Candidate Lily Jackson says, *"Slugville is nice, but it needs my help! The average income is only \$100 per week."*

Candidate Ronnie Ruis says, *"Slugville is in a lot of trouble! The average income is \$0 per week!"*

Slugville has only 16 residents, and their weekly incomes are:

\$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0,
\$200, \$200, \$200, \$200, \$200,
\$200, \$200, \$30600

How can this be? Who is telling the truth here, really? And what makes you say that?

What evidence might we use to give **support** to each of these claims?

What **questions** might we need to throw back to these claims?





Data About Us

Three candidates are running for mayor of Slugville. Each has determined the typical income for the people in Slugville, using this information to help in their campaigns.

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\$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$200, \$200, \$200, \$200, \$200,
\$200, \$200, and \$30600.

1. Explain which measure of center each of the candidates used as an "average" income for the town. Check their computations.

2. Does any person in Slugville have the mean income? Explain.

2000\$

3. Does any person in slugville have an income that equals the median? Explain.

200\$

4. Does any person in Slugville have an income that equals the mode? Explain.

200\$ 0

5. What do you consider to be the typical income for a resident of Slugville? Explain.

No because 0 and 200 are low and 30600 are too high



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\$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$200, \$200, \$200, \$200, \$200,
\$200, \$200, and \$30600.

How can this be? What's the truth?

Use and show all that you know to mathematically make a case for your thoughts! Who is telling the truth here, really? And what makes you say that?

I think Lily Jackson is right because in the box there's are 8, 0's and 7, 200's. and half of 200 is 100.

I took the 2 common numbers and divided by 2.

People might think Ronnie is right because the most common number is 0.

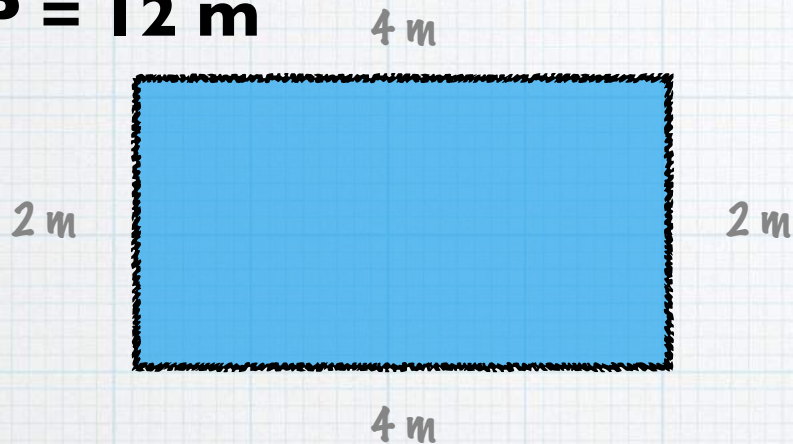
Making Thinking Visible: An opportunity for them... an opportunity for me...

0, 0, 0, 0, 0, 0, 0, 200, 200, 200, 200, 200, 200, 200, 200, 200, 30600

of
citizens.

100's

$$P = 12 \text{ m}$$

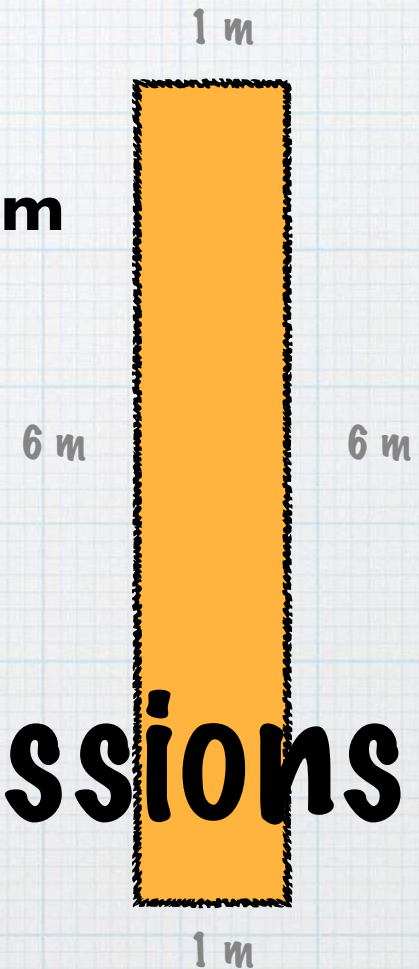


What's the perimeter of this rectangle?

$$P = 16 \text{ m}$$

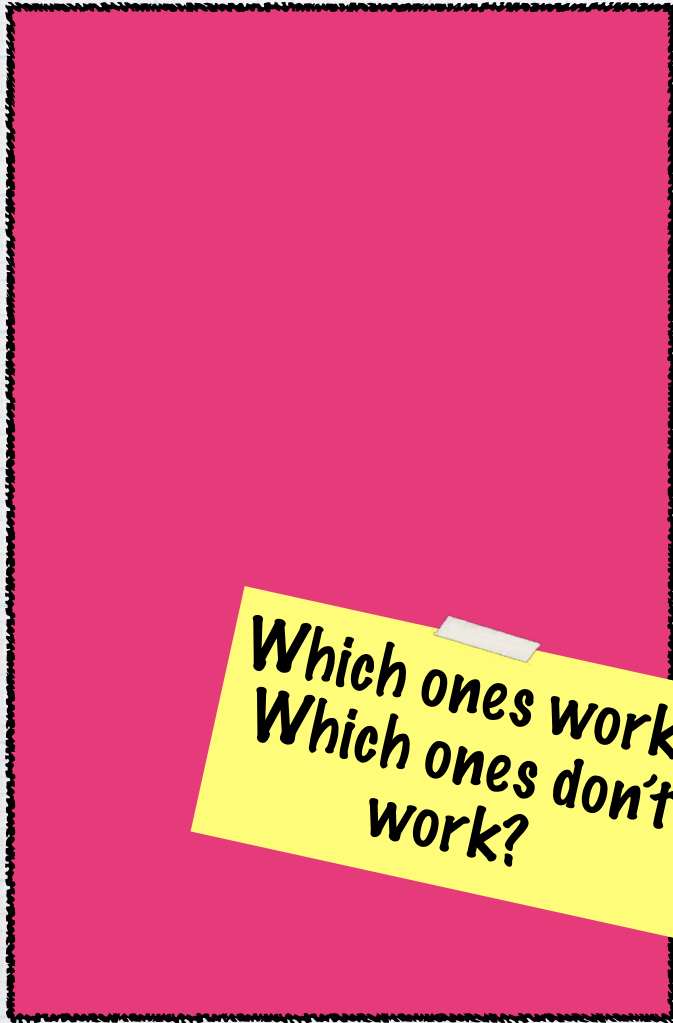


$$P = 14 \text{ m}$$



Equivalent Expressions

W



W

L

L

Which ones work?
Which ones don't work?

What expression could you write that would help you find the perimeter of any rectangle?

$$W + L + W + L$$

$$2(W \times L)$$

$$2W + L + L$$

$$W^2 + L^2$$

$$W + W + L + L$$

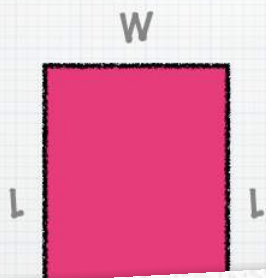
$$2(W + L)$$

$$W + W + 2L$$

$$(W + L)^2$$

Two expressions are equivalent when they have the same solution.

What's the perimeter
of any rectangle?



How do you decide whether two
expressions are equivalent or not?

You can decide if they create the same table and graph. (And can be modeled the same way sometimes.)

Don't
Work

They are equal when the values are the same. They can be written in different formats, but the value is the same.

You can decide by using the distributive property to find equations in their simplest form, then compare!

You can put in the same # for x in both equations and if you get the same sum then they are equivalent.

You can put in the same # for x in both equations and if you ^{always} get the same ~~sum~~ ^{solution} then they are equivalent.

I changed this statement a little bit. I crossed off sum and wrote solution because 'sum' implies addition and in equations there are some multiplication problems you have to do. I also added 'always' in between 'you' and 'get' because if you only try one x value and the solutions are the same, it could just be where the two lines cross.

$$y = 3x + 100$$

$$y = 100 + 3x$$

they get the same y

CLAIMS ON TRIAL

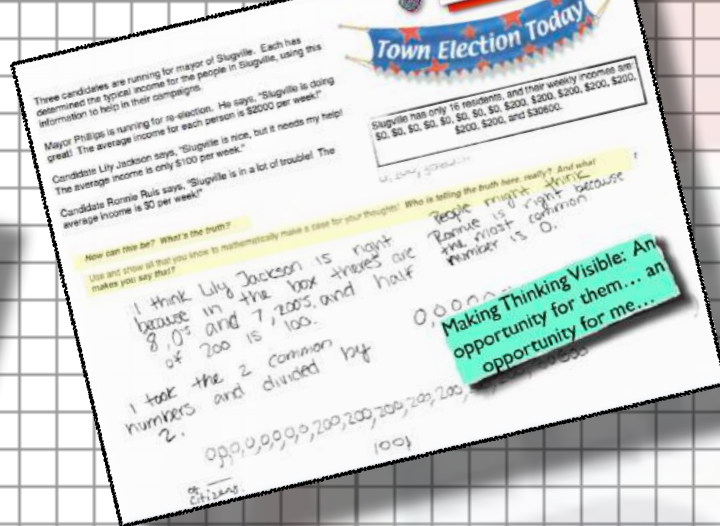
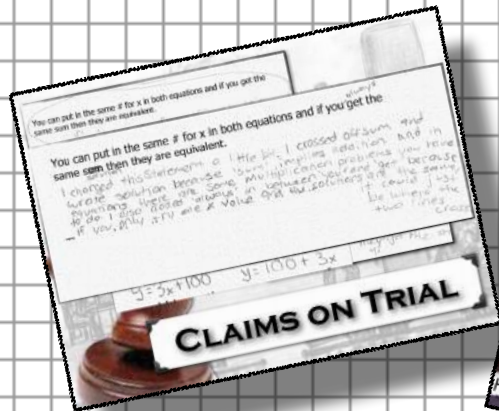
Headline #1: Tonight We Turn the Page



What evidence might we use to give **support** these claims?

What **questions** might we need to throw back to these claims?

Headline #2: The Time to Turn Pages has Passed



Claim Support Question

What has potential?
What has promise here for you
and your students?



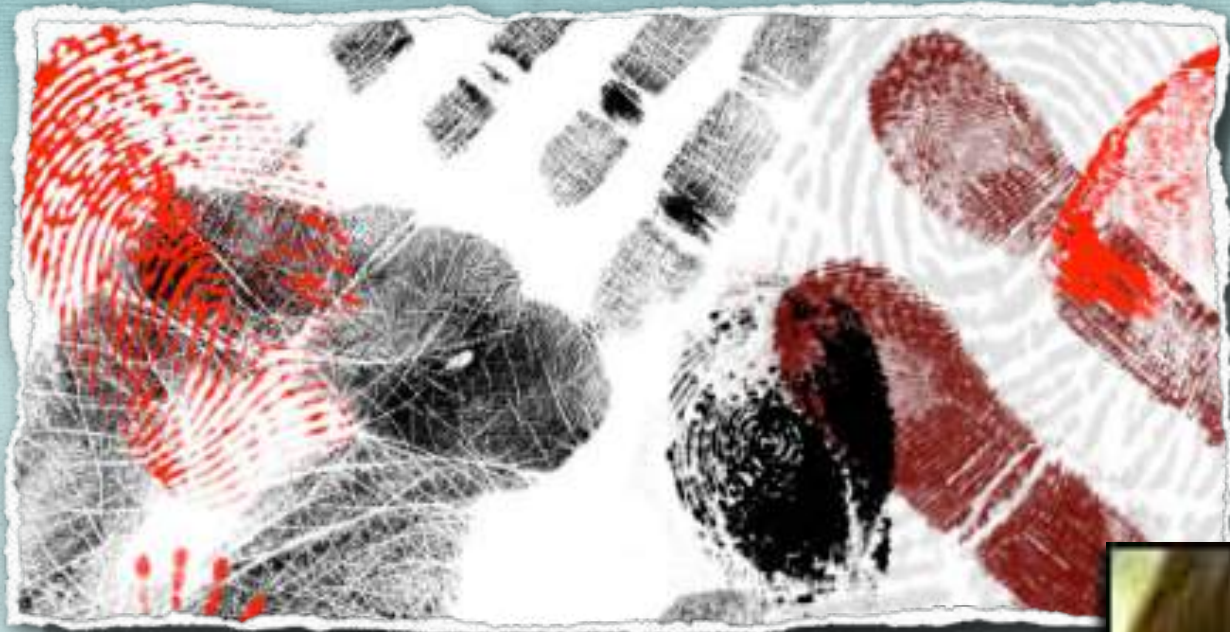


CSI

SHARAL

A Routine for Distilling the Essence of a
Topic

Leave the Identity Issues to Other Folks



Listen to the essay.

What messages or themes stand out for you as particularly important, interesting, or insightful?



Standing in the rain waiting to go up the steps to the balcony of the Grand Theater I gripped Mama's hand and watched the little blond kids enter the lobby downstairs. It was the '50s, I was "colored" and this is what I believed: My place was in the balcony of the downtown theater, the back of the bus and the back steps of the White Dove Barbecue Emporium. When I asked Mama why this was so, she smiled and said, "Baby, people do what they do. What you got to do is be the best that you can be."

We got our first television in the '60s and it brought into my living room the German shepherds, snapping at a young girl's heels. It showed children just like me going to school passing through throngs of screaming, angry folks, chanting words I wasn't allowed to say. I could no longer be "colored." We were Negroes now, marching in the streets for our freedom -- at least, that's what the preacher said. I believed that, even though I was scared, I had to be brave and stand up for my rights.

In the '70s: beat-up jeans, hair like a nappy halo and my clenched fists raised, I stood on the downtown street shouting. Angry young men in sleek black leather jackets and berets had sent out a call from the shores of Oakland, Calif. No more non-violence or standing on the sidelines quietly while we were being beaten. Simple courtesies like "please" and "thank you" were over. It was official: Huey, H. Rap, and me. So. I believed in being black and angry.

Leave the Identity Issues to Other Folks



With one of those big ideas in mind...

Choose a **color** that could represent that big idea

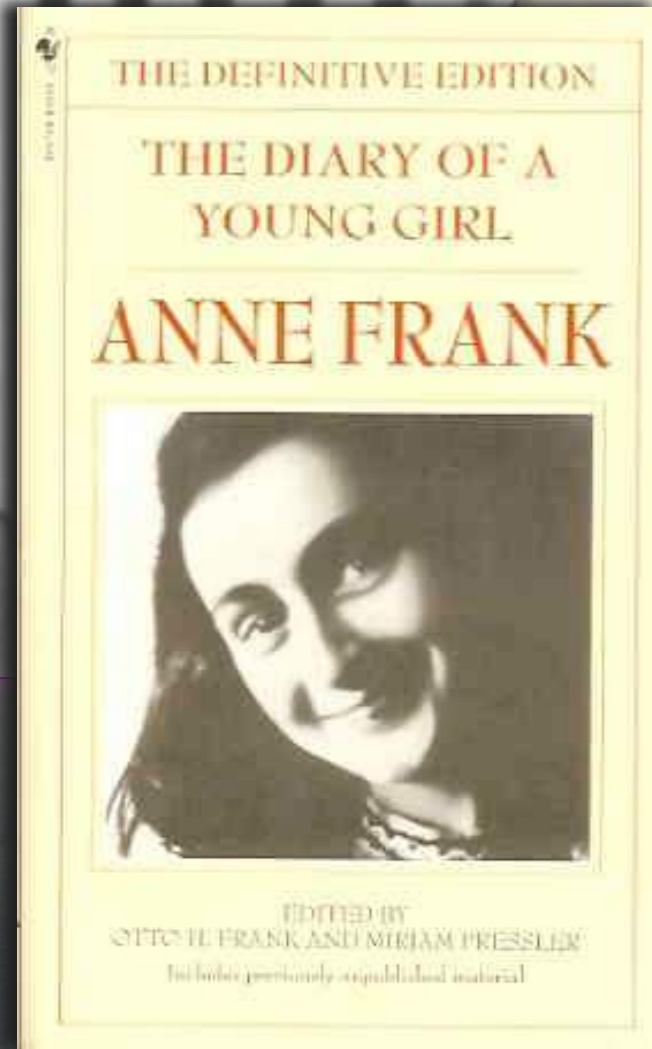
Create a **symbol** that could represent that big idea



Sketch an **image** that could represent that big idea



thisibelieve.org



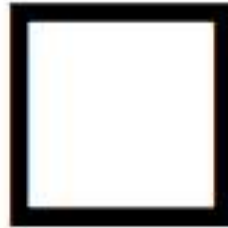
CSI: Color, Symbol, Image

FRIDAY, 23 JULY ANNE FRANK PG 136



COLOUR

Anne longs to do whatever she wants when she wants, which she cannot do in hiding. She wants to be able to move around freely. Sky blue represents the outside sky and free will.



SYMBOL

Anne can't go outside and often gets criticized for her own thoughts. 'Thinking outside the box is unnecessary' is what her life tends to say. This box represents the box Anne longs to think and be outside of.



IMAGE

In this diary entry Anne talks about how much she wants her old life back. She wants her own private life back. This eagle represents the freedom Anne desires.

SUNDAY, 27 FEBRUARY ANNE FRANK, PG 253



COLOUR

Anne is unsure of what the future will hold for her and Peter. Black, like a chalkboard, represents all the different possibilities that could be drawn for their future.



SYMBOL

In this diary entry Anne doubts she can keep her longing to reach Peter under control. She must wait until the silence breaks between them and they can act as their true selves.



IMAGE

Through this passage Anne talks about how she and Peter aren't really as different as they seem on the surface. Just like these apples, they look different but taste similar.



COLOR
SYMBOL
IMAGE

What has potential?
What has promise here for you
and your students?

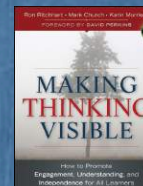
A Routine for Distilling the Essence of a
Topic

- Day 2

THINKING ROUTINES

*ESTABLISHING PATTERNS OF
THINKING IN THE CLASSROOM*

...continuing the conversation



MARK CHURCH
CO-AUTHOR
HARVARD PROJECT ZERO'S
MAKING THINKING VISIBLE

If you got to a place of success with your students— *in terms of their thinking, learning, and understanding* — what would that look like for you?



If you got to a place of success with your students — *in terms of their thinking, learning, and understanding* — what would that look like for you?

Routines

- patterns of behavior adopted for particular circumstances;
- rehearsed sets of movements that make up a performance

See Think Wonder

Is this a moment I need the students to look closely, and think about?

Claim Support Question

Is this a moment where I need the students to develop a theory and scrutinize evidence?

What Makes You Say That?

When do I need the students to put their thumb down on the pulse of our topic — capture the conversation?

Color Symbol Image

Opportunities

Language

Independent

Willing to take risks

Environment

Look closely - beyond the surface

Time

Curious and inquisitive

Modeling

Reason critically

Analyze and synthesize, make connections, consider perspectives

Interactions

Connections

Connect?

What idea from yesterday really **connects** for you — fastens on to beliefs you already hold about teaching, learning, and developing understanding?

What idea from yesterday **extends** your thinking in some way — takes it in new, further, or deeper directions?

Extend?

Challenge?

So what do you suppose makes paying attention to students' thinking **challenging** for you — for us — in this profession?

Connect?

Extend?

Challenge?

First person shares
reflection for one
minute.

Uninterrupted.

Silence. Reset.
30 seconds.

Second person
shares reflection for
one minute.

(building on where it
makes sense)

Uninterrupted.

Silence. Reset.
30 seconds.

Third person shares
reflection for one
minute.

(building on where it
makes sense)

Uninterrupted.

Silence. Reset.
30 seconds.

**OPEN
CONVERSATION:**

What's coming up for
us? Big ideas?

What's important here
for us to take note of?

Microlab Routine

think• ing rou• tines *npl*

1. Tools, used over and over again in the classroom, that support specific thinking moves.
2. Structures through which students collectively as well as individually initiate, explore, discuss, document, and manage their thinking.
3. Patterns of behavior adopted to help one use the mind to form thoughts, reason, or reflect

A magnifying glass with a black handle and a thin metal rim is positioned over the word 'Zoom'. The lens is focused on the 'Z' and 'O', making them appear larger and more detailed. The word 'Zoom' is written in a bold, textured, light blue font. The background is a dark, solid color.

Zoom In

* A routine for
looking closely,
building explanations,
and reasoning with
evidence

**And holding these actions up for scrutiny,
revision, and reinterpretation based on further
looking and reasoning*

What do you see in this image?

What does it look like or remind you of?

What could be going on here and what makes you say that?



What more do you see now?

How does this new information *add to* or *change* your hypothesis about where this might be and what could be going on?

What questions does these new details raise?



What new details
come into view now?



How does this new
information change or
add to a developing
interpretation of what
might be going on
here?

What new details do you see now?

How does this new information add to or change your hypothesis about where this might be and what could be going on?

What new questions do these emerging details raise?



What's your theory -- Who might this person be?

When and where might this be?

What makes you say that?



And a little
Zooming Out...



Now that we've zoomed in (and zoomed out), what questions have come up that you think are worth our taking notice of?

How has our zooming in (and zooming out) shaped our developing hypotheses about what's going on here?

What questions and puzzles does all this zooming in (and zooming out) raise for us as we launch our topic: Racism: Causes, Consequences, and Complexities



What has potential?
What has promise here for you
and your students?

Zoom In

- Looking Closely. Noticing. Making interpretations based on evidence. Curiosity. Skepticism. Openness to Developing ideas.

NOT “Guess this picture”



Unveiling Stories

CENTRAL

*What's the story?
...central, most visible*

CENTRAL HUMAN

What's the human story here?

...helping us understand our fellow humanity

*What's the story?
...central, most visible*

CENTRAL

HUMAN

WORLD

*What's the
world story
here?*

*... speaking to
systemic global
issues*

*What's the human story here?
...helping us understand our fellow humanity*

*What's the story?
...central, most visible*



CENTRAL
What's the story?
...central, most visible

HUMAN
*What's the
human story
here?*

*...helping us
understand our fellow
humanity*

WORLD
*What's the
world story
here?*

*... speaking to
systemic global
issues*



NEW

What is the new story here?

*...capturing something novel,
unique, or instructive about this
issue being explored*

What is the new story here?

*...capturing something novel, unique,
or instructive about this issue being
explored*

NEW

What's the untold story here?

*... partial framings, note-worthy
absences, unreported aspects*

UNTOLD

NEW

What is the new story here?

*...capturing something novel,
unique, or instructive about this
issue being explored*

UNTOLD

What's the untold story here?

*... partial framings, note-worthy absences, unreported
aspects*

Understanding

Wondering

What am I curious about here?

Consider different Viewpoints

What's another angle on this?

Reason with evidence

Why do you think so?

Make connections

How does this fit?

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?

*What's promising?
What has potential
here for you and
your students?*

Unveiling Stories

Unveiling Stories

1. *What's the story?*
2. *What is the human story?*
3. *What is the world story?*
4. *What is the new story?*
5. *What is the untold story?*

This routine invites viewers to reveal multiple layers of meaning in a work of art, an image, a text, or a journalistic report. Building on our study of journalism as a window into our contemporary world, each layer addresses a key dimension of quality global journalism: the central most visible story; the way the story helps us understand the lives of our fellow human beings around the world, the ways in which they story speaks to systemic global issues; what is new and instructive about the issue explored; and the important absences, unreported aspects of a story, or work and partial frame provided.

Purpose This routine is designed to invite students to investigate the world and develop powerful habits of global journalism consumption-habits that are transferable to information consumption more broadly.

Applications and tips for use

A habit of slow reading and deep interpretation of a text, photograph, video documentation material. The routine has also been used in the context of literature, environmental science classes and history. Teachers have opted for selecting some –not all questions depending on their goals. They have also modified the order in which the questions are introduced. The reference to “the story” has been interpreted in at least two distinct ways: (a) Students have interpreted it as the story that students propose to explain or contextualize the event depicted—“the human story that led to the contamination of the Mexican Gulf begins with our dependence on fossil fuels” (b) Students have also interpreted “the story” as “the story told by the article, image or material they read.

- Day 3

When Thinking Becomes Routine...

*Looking Back &
Looking Ahead*

Mark Church

Harvard Project Zero's
Making Thinking Visible & Cultures of Thinking
church.mark@gmail.com

ESTABLISHING THINKING ROUTINES HELPS TEACHERS...

Understand what is being learned and how ideas are being put together

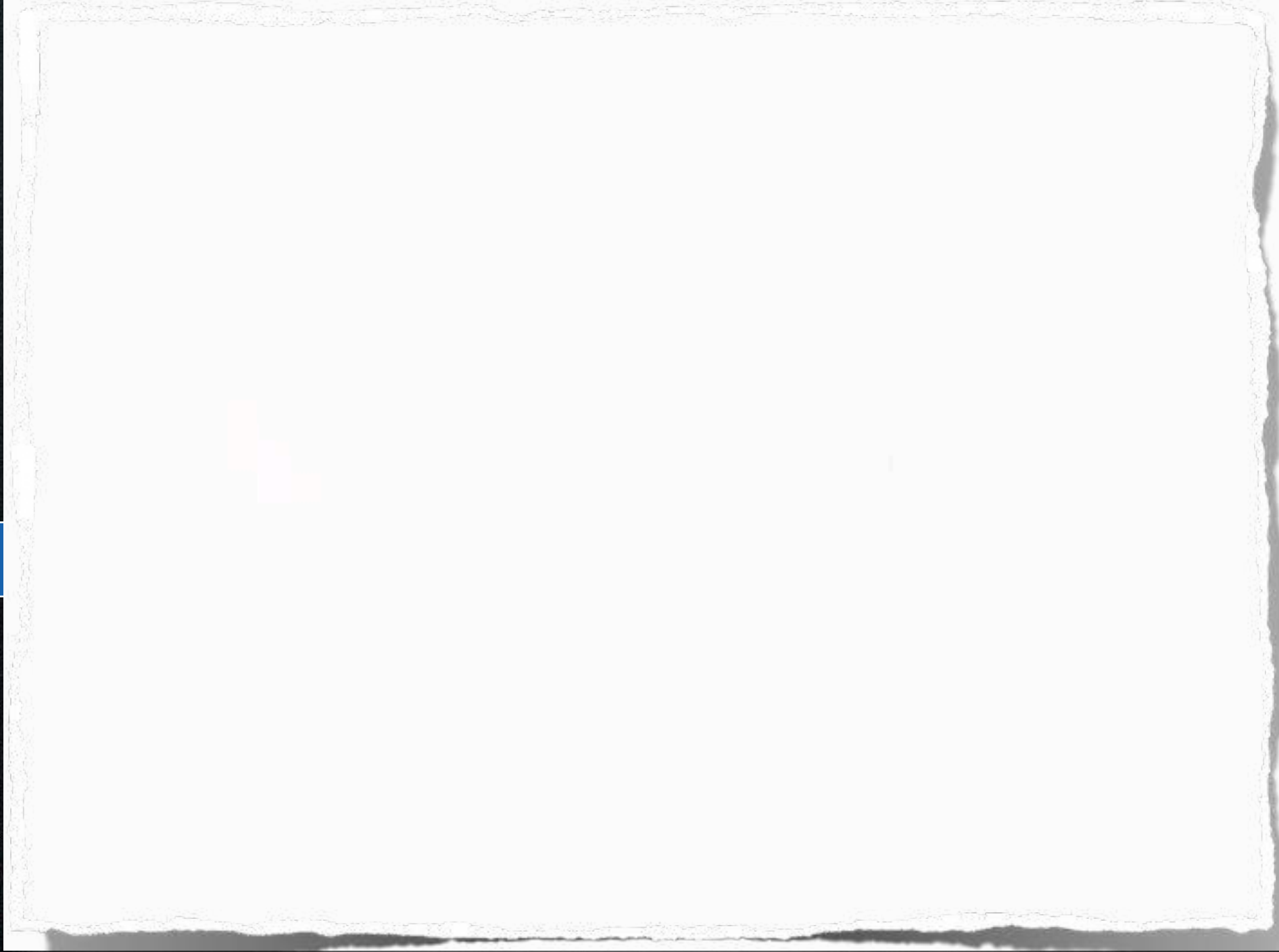
Uncover misconceptions

Become more aware of the thoughtfulness individuals bring to their learning

Direct instruction to better meet the needs of the learner

Assess understanding versus merely assessing procedural performance








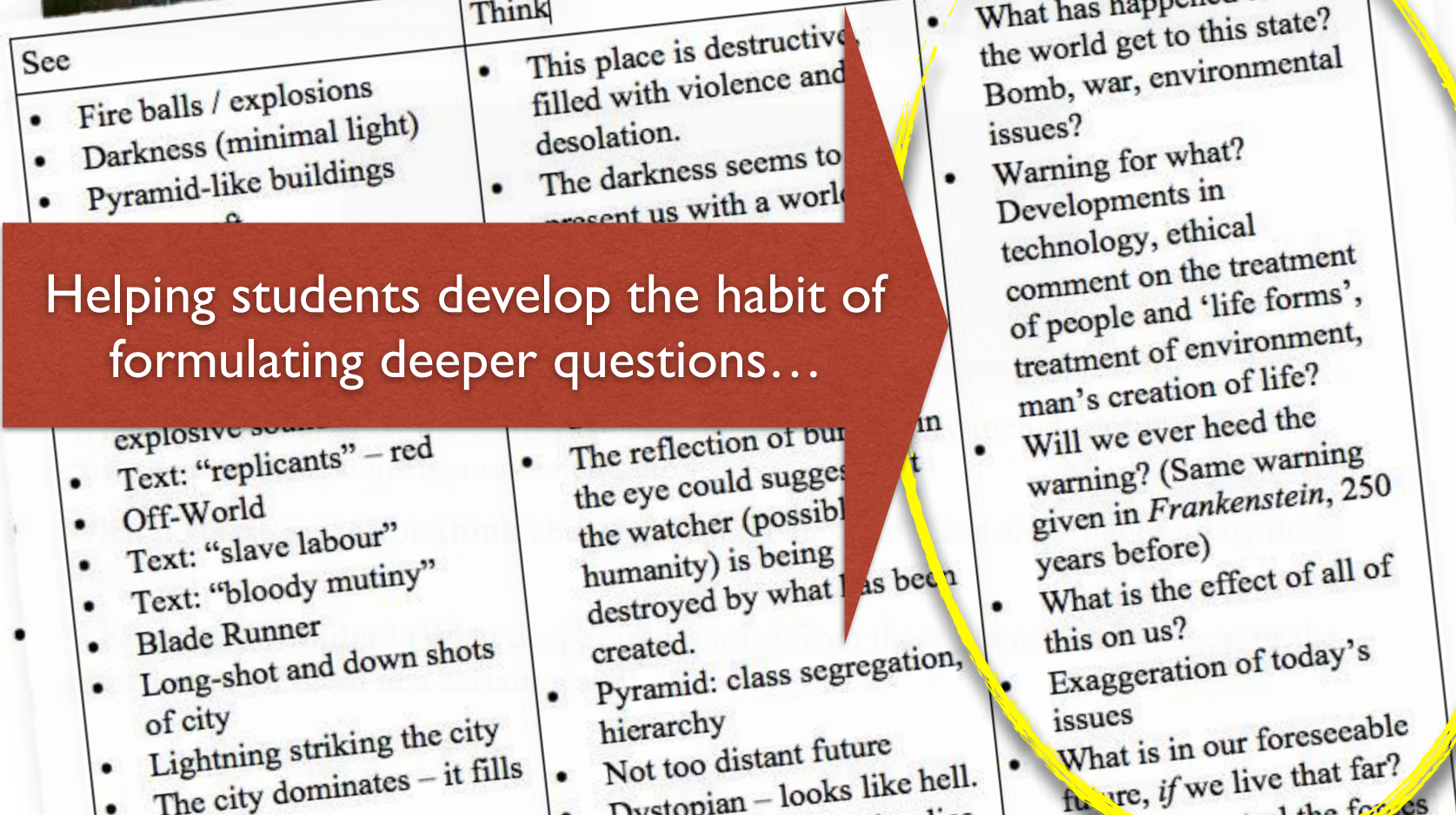
Fostering Thinking Dispositions in the High School English Classroom

David Camp, HoD English;
Emanuel School; Sydney, Australia

See Think Wonder, *Initially*: Blade Runner



See	Think	Wonder
<ul style="list-style-type: none">• Fire balls / explosions• Darkness (minimal light)• Pyramid-like buildings	<ul style="list-style-type: none">• This place is destructive, filled with violence and desolation.• The darkness seems to present us with a world...	<ul style="list-style-type: none">• What has happened to make the world get to this state? Bomb, war, environmental issues?• Warning for what? Developments in technology, ethical comment on the treatment of people and 'life forms', treatment of environment, man's creation of life?
<ul style="list-style-type: none">• explosive sound• Text: "replicants" – red• Off-World• Text: "slave labour"• Text: "bloody mutiny"• Blade Runner• Long-shot and down shots of city• Lightning striking the city• The city dominates – it fills	<ul style="list-style-type: none">• The reflection of but the eye could suggest the watcher (possibly humanity) is being destroyed by what has been created.• Pyramid: class segregation, hierarchy• Not too distant future• Dystopian – looks like hell.	<ul style="list-style-type: none">• Will we ever heed the warning? (Same warning given in <i>Frankenstein</i>, 250 years before)• What is the effect of all of this on us?• Exaggeration of today's issues• What is in our foreseeable future, if we live that far?



Helping students develop the habit of formulating deeper questions...

See Think Wonder, *Developing*: Ted Hughes' Birthday Letters

	See	Think	Wonder
Ted Hughes <i>The Birthday Letters</i>	What do you "See" in each poem? Literally – what are the key elements of each poem?	What do you "Think" Hughes is saying in each poem? Literally – What underlying message is Hughes making us consider in his poems?	What do you "Wonder" about with regards to Conflicting Perspectives? You may want to expand on Hughes's ideas and speculate what Hughes is trying to develop with regards Conflicting Perspectives.

Rubric	<p>This time, the routine was used to guide their interactions with a collection of poems, helping them to move from the literal (this is a poem about a minotaur) to the more figurative (the minotaur is actually representative of the monsters we must face in the labyrinth of life: what are our minotaurs?)</p> <p><i>See Think Wonder</i> is becoming a very powerful tool for helping students move beyond basic thoughts that pop into their heads and into deeper territory.</p>		
"Fulbright Scholars"			
"The Shot"			
"The Minotaur"			

See Think Wonder, *Deeply Embedded*: HSC Essay Writing

Students often struggle with every element of question interpretation, from working out what it is asking them to do, to finding the right bits of texts to use as supporting evidence, to adding depth to their discussion that moves beyond the simple terms of the question.

I find that *See Think Wonder* can help students to plan out responses to essay questions if used to help them interpret the question itself.

See Think Wonder excels at moving students from the literal to the figurative in a very short amount of time, so is great to use with students to get them to actually answer all elements of the question, use great evidence and provide more depth in their responses.

‘Nothing, not even a Utopia, can necessarily make the pursuit of happiness a successful one that ends in capture. The best society can merely allow every individual to flourish in the pursuit.’
– DANIEL NETTLE, *Happiness: The Science Behind Your Smile*

Discuss how *The Republic* engages in this pursuit of happiness.



Give me your revised (more authentic) intro: With your seeing... thinking... wondering...

Student: The word 'utopia' is actually defined as meaning a good place, but also no place or a place which does not exist. The idea of the pursuit of happiness therefore can never be achieved if happiness entails the perfect world because the perfect world is not existent. In Plato's *Republic*, the pursuit of happiness is the

the
this
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not a
possi

See	Think	Wonder
<ul style="list-style-type: none">- Pursuit of happiness- <u>capture</u>- <u>individual</u>- <u>flourish</u> in the pursuit	<ul style="list-style-type: none">- Plato's discussion of 'function'- The impossibility of Utopia- The Individual vs the State- The Cave metaphor: we don't know what we want- The Sun, the Line.	<ul style="list-style-type: none">- Is Utopia really the perfect world? (<u>good</u> place and no place)- Is the Just man more happy or better off than the unjust man?- Creation of a 'perfect' society to explore what is justice- Are people inherently good or inherently bad?

... and The

Ultimately, in this Shakespearean drama, it is the representation of human relationships that captivates audiences. Explain at least ONE intense human relationship in Hamlet, and analyze the play as a whole.

See: representation; intense human relationships
ONE

Think: The ghost and Hamlet - intense supernatural relationship
Hamlet and Claudius - rivalry, polar opposites
Gertrude links into both relationships
Hamlet and himself/god/greater universe - "To be, or not to be"

Wonder: What do these intense relationships demonstrate for our own lives? Are there postmodern/existential/philosophical questions that arise from these relationships, especially more figurative ones like with the supernatural and omnipresent God/morality?

Shakespeare's Hamlet grapples with the complexities of human lives – qualms of death and the afterlife, and, fundamentally, the question of the nature of existence. The play's psychological explorations of intense human relationships captivate audiences in the modern age. Antithetical to modernism, such as the protagonist's famous "To be, or not to be" soliloquy, is the metaphysical relationship between Hamlet and his father. The themes of appearance versus reality and order versus chaos. Hamlet's continued relationship with the omnipresent Ghost throughout the play further broadens the

Your Take-Away?

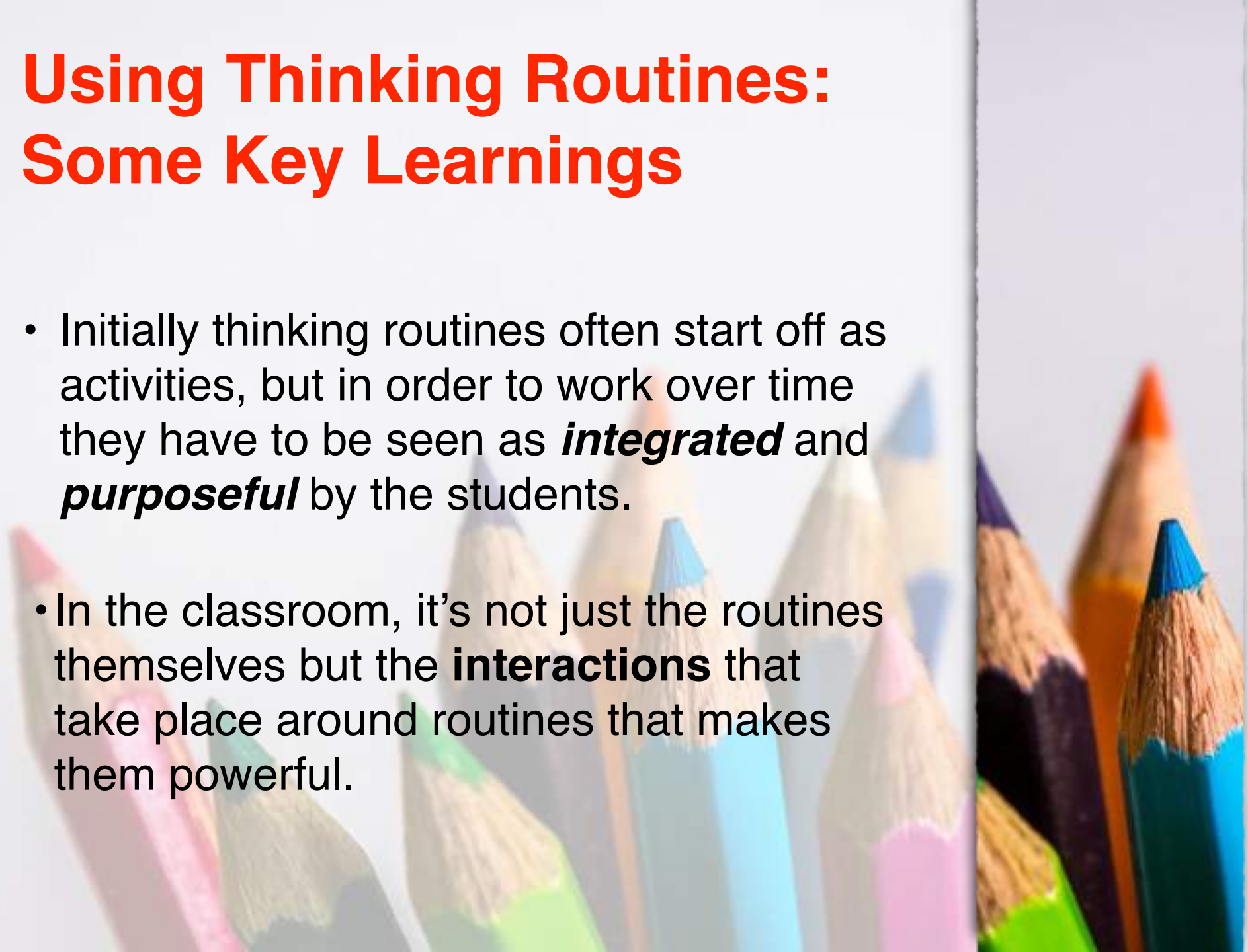
What resonates? What makes sense?

See Think Wonder: The Routine

seeing thinking wondering as routine

Using Thinking Routines: Some Key Learnings

- Initially thinking routines often start off as activities, but in order to work over time they have to be seen as ***integrated*** and ***purposeful*** by the students.
- In the classroom, it's not just the routines themselves but the **interactions** that take place around routines that makes them powerful.



+1 Routine

*A routine for identifying important ideas worth remembering
— exercising working memory, note taking, taking note*

- ☒ Recall
- ☒ Add
- ☒ Review
& Elaborate



RECORDED AT **TED**Youth

Why is it that some videos go viral and others don't? It's not just about the content, but also about the timing and the audience. A video that only a few people see might never become a cultural moment. But if it goes viral, it can reach millions of people and become a cultural moment. This is the power of the internet: it gives everyone a voice and a platform to be heard. And it's also the power of the internet: it can make a video go viral in a matter of hours. So, what makes a video go viral? It's a combination of factors: the content, the timing, the audience, and the platform. But the most important factor is the audience. If a video resonates with a large group of people, it has the potential to go viral. And that's the beauty of the internet: it gives everyone a chance to be heard.

☒ Recall

☒ Add

☒ Review
& Elaborate

Group Interaction:

Now that we've + I ...

*What key ideas seem to
emerge from this
presentation?*

*What are the biggest ideas,
themes, concepts worth our
consideration as provoked by
this talk?*

HEADLINES



If you had to ***capture the heart*** of these key ideas or themes or provocations in a headline, what would it be?

And what makes you say that?

Man Talks About YouTube Viral Videos



But Who “Tastes” the Tastemakers?

The Future Is Here: Ready or Not

Viral Videos: FOR
GOOD or FOR EVIL?

WHO'S FAMOUS?
WHO **FAMES** US?

+1 Routine

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- Potential **opportunity** for my students? What could be potentially rich here?

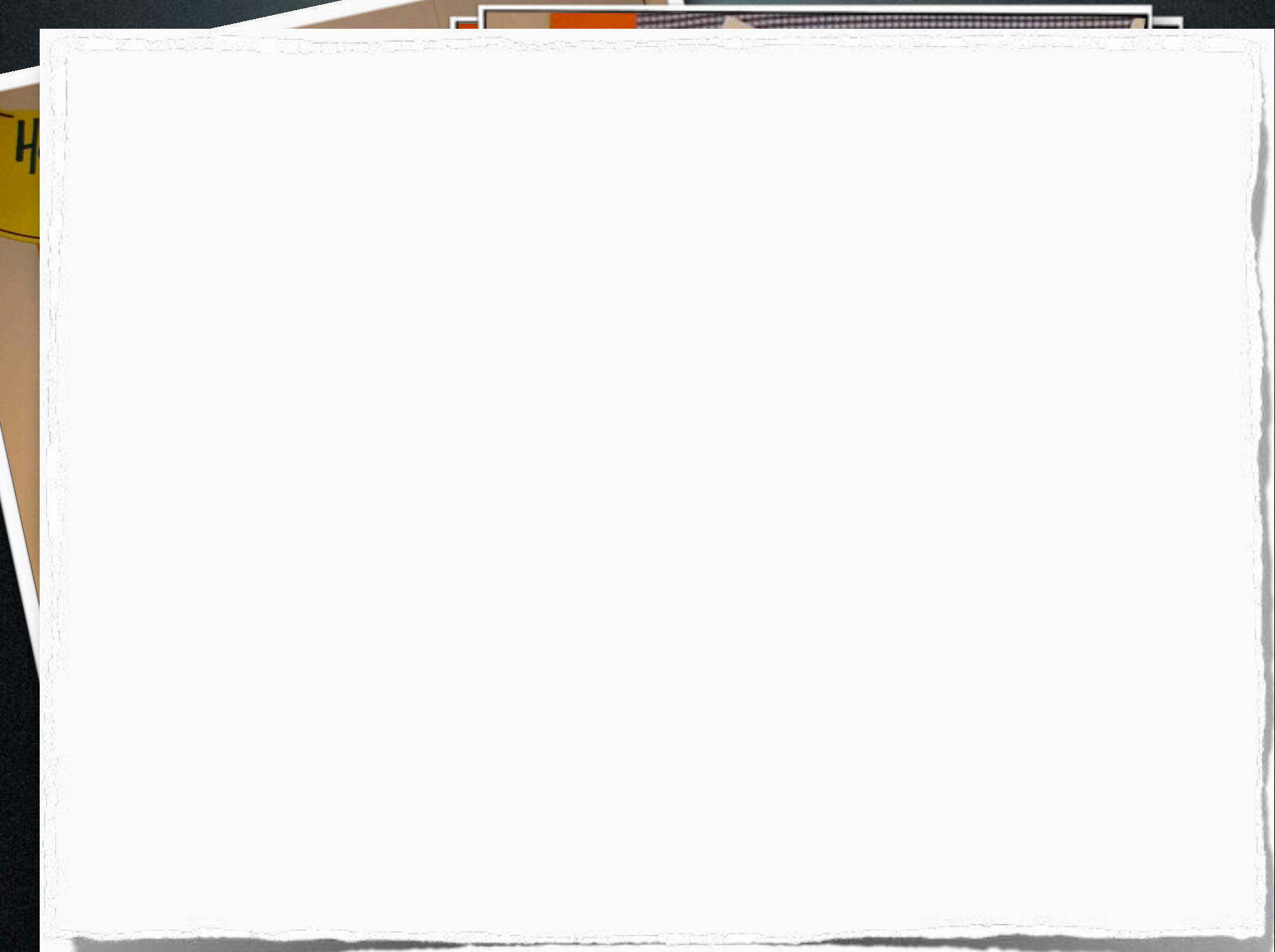
HEADLINES

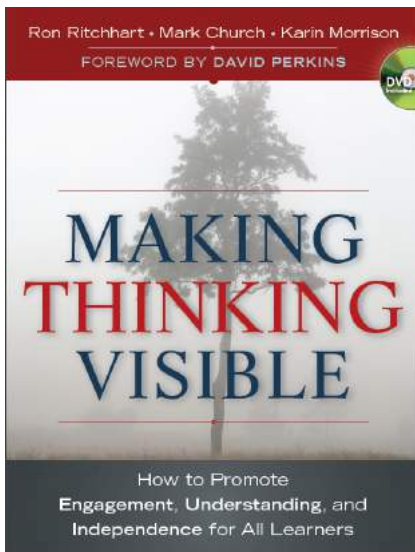
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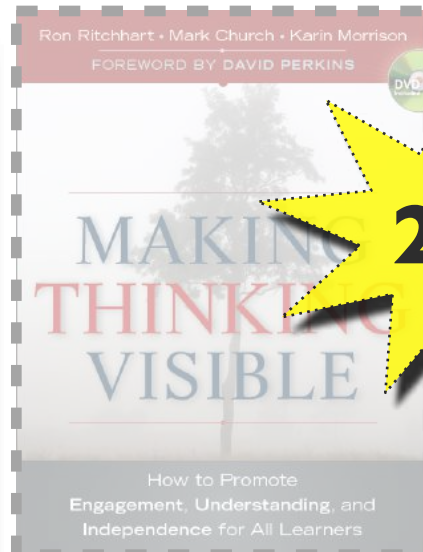
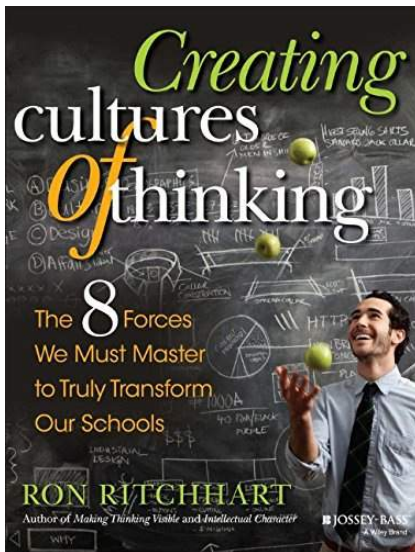
- Potentially rich **interaction** for my students? What could be interesting to try here?





Making Thinking Visible

www.visiblethinkingpz.org



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