

SYMPOSIUM BREAKOUT SESSION WEDNESDAY, OCTOBER 26, 2022 | 2:00-3:30 PM ET

Rigor by Design, Not Chance:

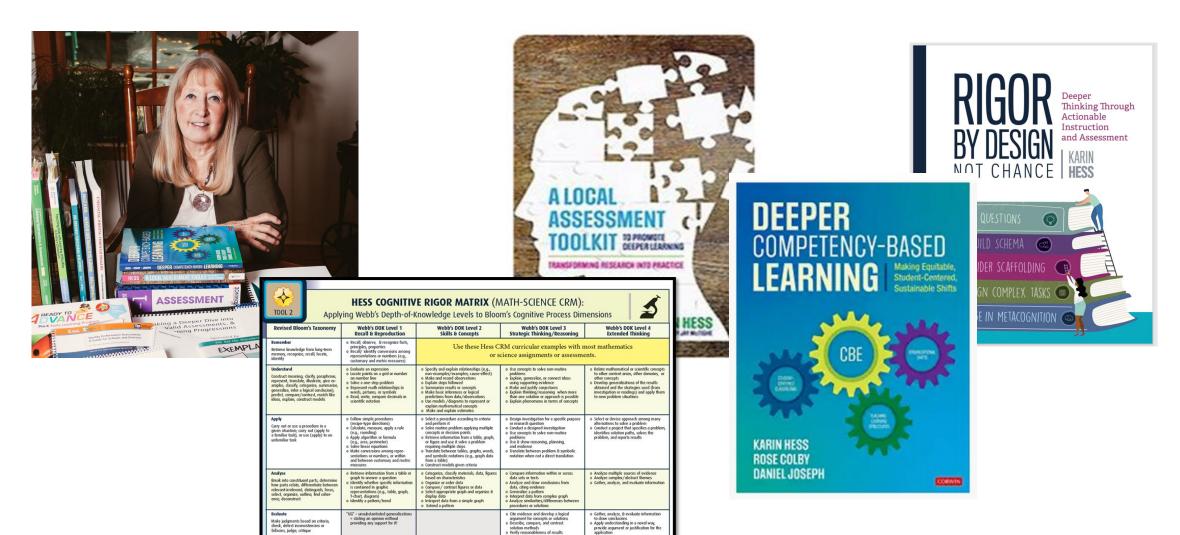
Five Essential Teacher Moves Promoting Cognitive Engagement, Self-Direction, and Deeper Thinking

PRESENTER:

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- www.karin-hess.com
- @drkarinhess



Deeper Learning & Rigor Have Been a Recurring Theme for Me as a Classroom Teacher, School Administrator, and PD Leader

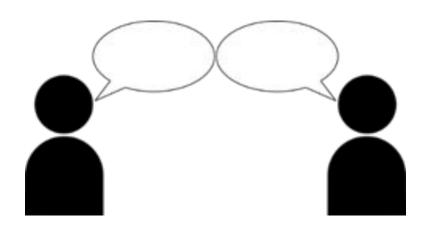


Grant Wiggins' Annual "Student Voice" Survey Middle & High School Students

1. I learn best in class when...

2. I find it personally helpful to my learning when my teacher ...

3. What was the most interesting work/task/ or project you were asked to do this year in school? What made it interesting for you?



In the chat ...

Tell us 1 thing that has made learning or assessment tasks <u>meaningful</u> for you in the past.

Session Overview

What is "actionable" assessment?

Unpacking 5 "Actionable" Teacher Moves



Brain science: Why emotional engagement leads to (or blocks) cognitive engagement

Putting it all together - An Actionable Assessment Cycle

What makes an assessment "actionable"?

- 1. assessment questions and tasks are designed to "uncover" what the student is thinking, not simply what the student remembers;
- assessment evidence can be interpreted in terms of where a student is "right now" along a learning continuum (not a teaching continuum);
- 3. assessment evidence can be used to provide actionable feedback to students to develop self-reflection skills, helping them to better understand themselves as learners, in addition to understanding the content they are learning

Learning Tasks Designed to "Uncover" Thinking...

112 UNCOVERING STUDENT THINKING IN MATHEMATICS



ARE THEY LINEAR?

Circle the letters of each of the examples showing a linear equation.

A.
$$3x + 5y-2 = 2y + 4$$

B.
$$x = 9y-12$$

C.
$$(x+2)^2-x^2=y$$

D.
$$y^2 = 7x + 15$$

E.
$$y = x^3 - x + 3$$

F.
$$4x^2 + x - 6 = 2(2x^2 - 3x + 7)$$



For each example, explain or show how you know it does or does not show a linear equation.

	As you read, note important explicit information (details, descr	ng and Analyzing Text(s)		
	stated.	iptions, what was said of done, etc., that is dealing		
	Then "read between the lines" – what implicit information is suggested/ implied by the text evidence?			
	When you have completed the reading, review your notes and			
	whole text based on the information you collected and analyze	d.		
	✓ What are you are looking for: development of then	ne character change over time notential		
	bias examples of author's craft/literary devices			
		_or other.		
	I			
Page?		What does the explicit information imply/suggest?		
	(with text page or paragraph where you located it)			
	What inferences or conclusions can you r	nake ABOUT THE WHOLE TEXT?		
	Use your interpretation and analy			
	ose your interpretation and analy	JIS OF STILS CORE CHICAGO		

Unpacking 5 Teacher Moves that Deepen Engagement, Self-Directed Learning, & Thinking

Ask a series of probing questions that increase in depth and complexity to uncover thinking.

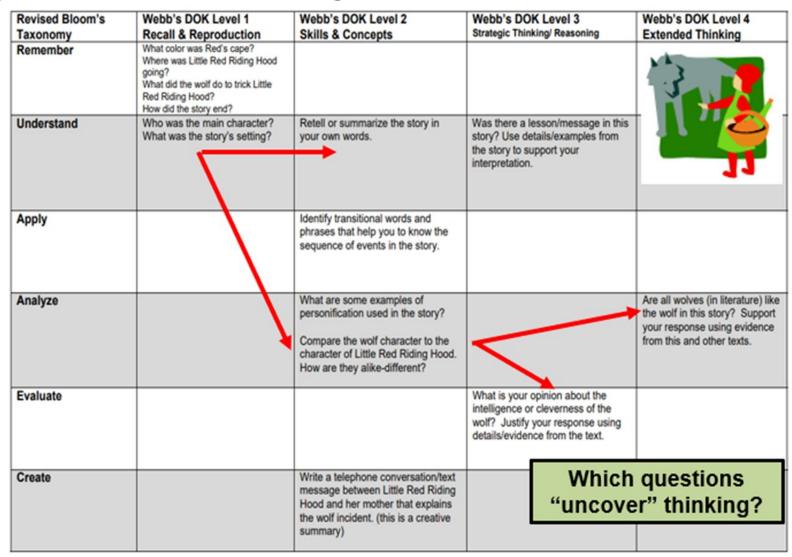
Build schemas in each content domain.

Consider ways to strategically scaffold learning for different specific purposes.

Design complex tasks, emphasizing student input and evidence-based solutions.

Engage students in metacognition and reflection before, during, and after each learning opportunity or lesson.

Ask a series of probing questions that increase in depth and complexity to uncover thinking.



Questions that lead to deeper understanding...

What is an "Essential" Question that leads to a performance assessment and *transfer* of knowledge, skills, & dispositions (Profile of Graduate) [DOK 3 or 4]?

- Broad and open-ended (could use it more than once)
- Spark investigation, evidence-based support, and fine-tuning/revising current thinking
- Thought-provoking Invite students to raise their own questions

EQ: How do authors use rhetorical strategies to communicate a message?

We've been learning about how authors use rhetorical strategies to communicate a message. Now you'll incorporate the use of rhetorical strategies to develop either:

- an original advertisement,
- •a speech on a debatable issue, or
- •a debatable scientific treatise.

The final product will be critiqued by your peers.

And, you'll write a reflection evaluating the effectiveness of the strategies you used.

Student Roles and Responsibilities in the Formative Classroom

- Use learning targets as a GPS to guide and monitor learning.
- Ask questions of oneself to identify possible gaps in learning.
- Use others' questions as catalysts for thinking and selfassessment.
- Form and ask questions to request feedback from others.

Self-Assessor

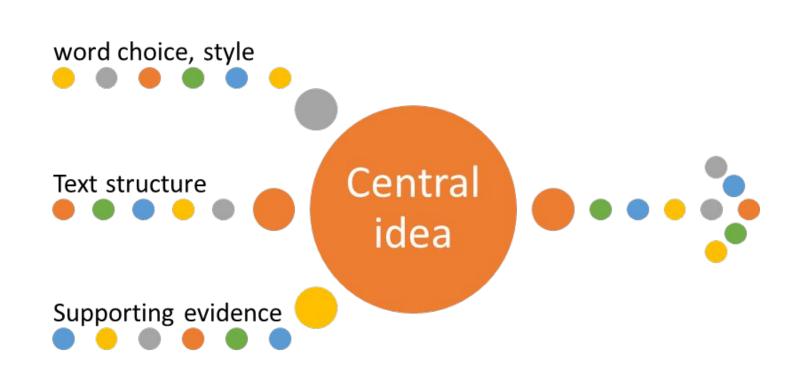
Knowledge Contructor

- Use questions to make new connections.
- Proactively seek feedback to address identified needs.
- Make meaning of feedback and connect this to current thinking.
- Use feedback to affirm, revise, or extend knowledge and skills.

- Provide honest responses to questions to let others know their level of understanding.
- Actively listen to others during class dialogue.
- Provide honest feedback and ask questions to peers.
- Engage in collaborative thinking and speaking to build a collective understanding.

Collaborative Contributor

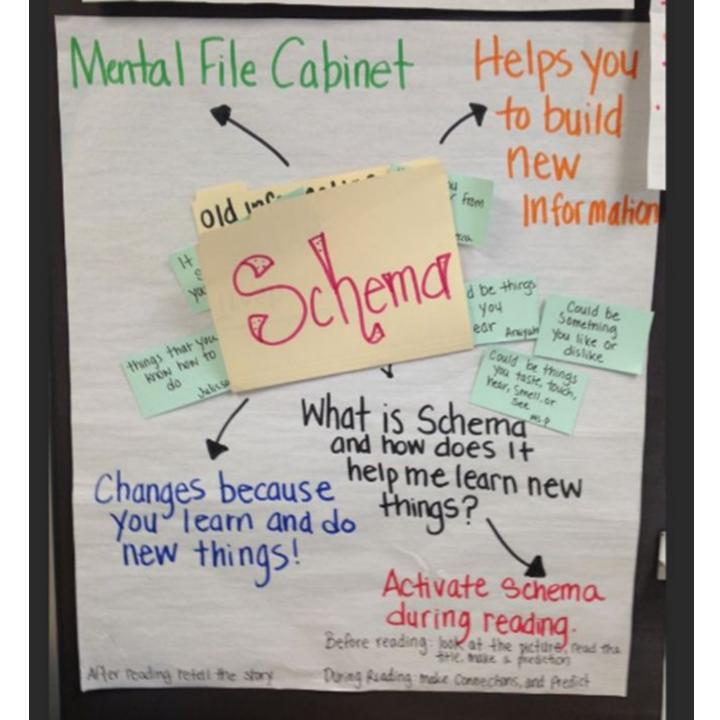
Build schemas (mental maps) in each content domain.

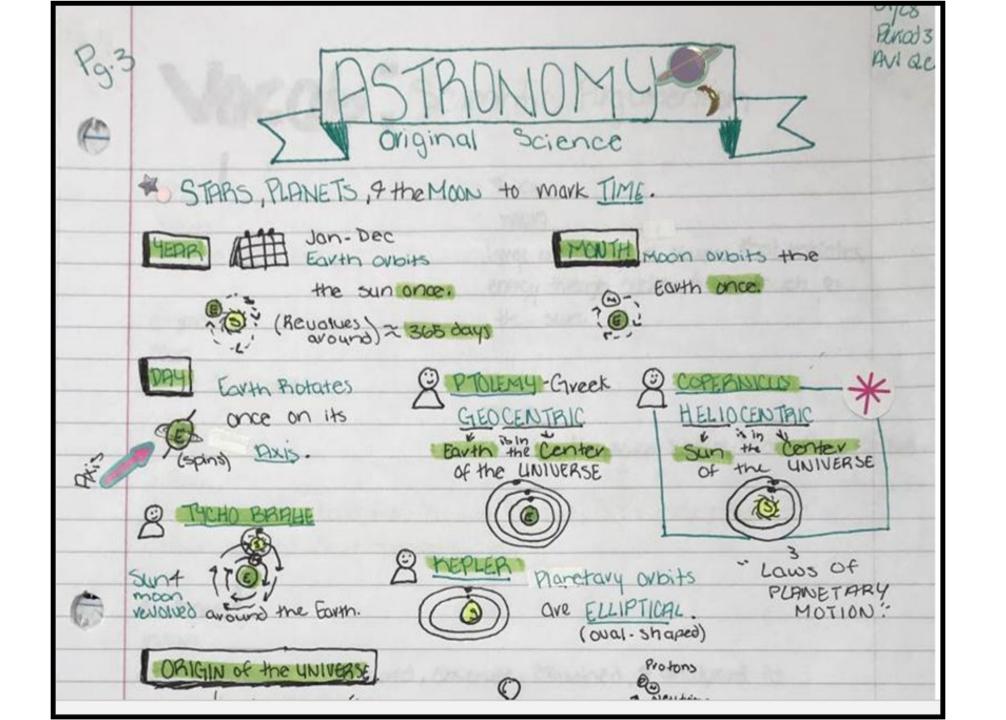


Taking something apart to see how the parts work together.

Building Schema

Making sense of new information by connecting to prior learning and experiences



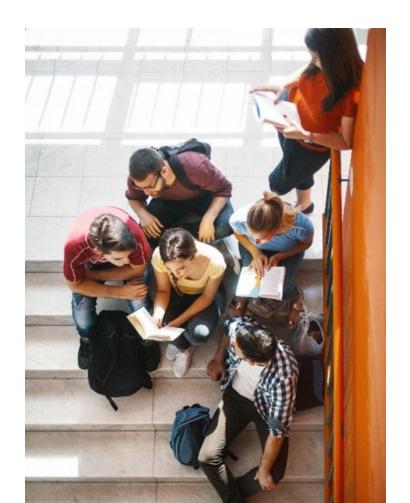


Consider ways to strategically scaffold learning for different specific purposes.

- 1. Supporting Language & Vocabulary Development
- 2. Facilitating Executive Functioning
- 3. Deepening Content Knowledge/Connecting to Big Ideas

Scaffolding vs. Differentiating

STEPS any student can use to be successful on a specific task



DIFFERENT CHOICES:

Menus/Choice Boards: Content, Processes/DOK, and/or Products

#BISDwired Team: @tommyspall, @brantontech, @tskuhn

Creative Book Trailer Ideas

Level 1

Level 2

Level 3

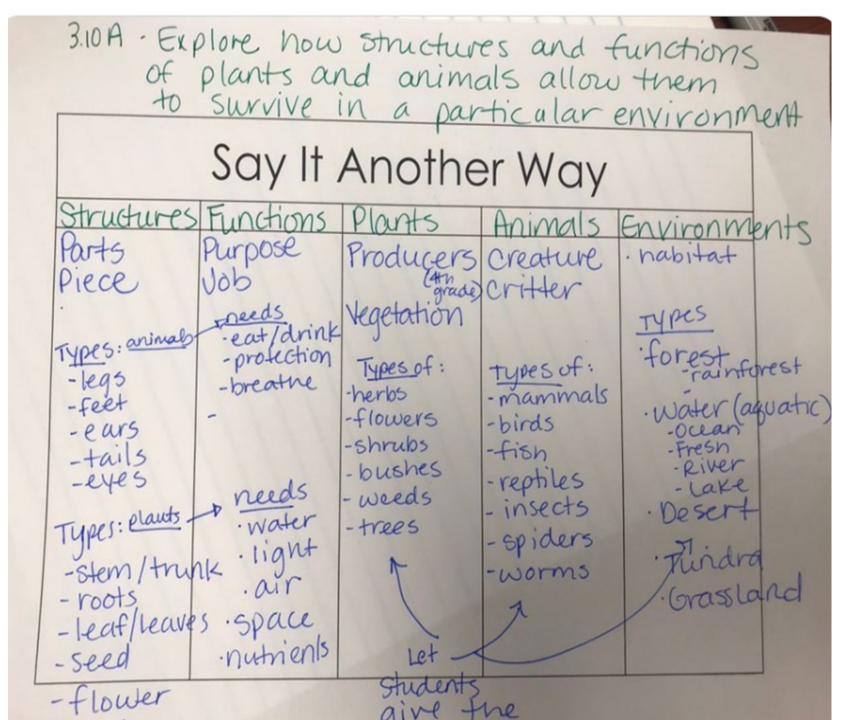
- Create a cardboard poster and present your book trailer in front of the whole class.
- Create a Skit or Play for your book trailer and have a teacher record on a device.
- Use Chatterpix IOS app to take a picture of the book cover and have the book talk about the plot.
- Create a movie trailer "shoe box" with clue items from the book and present to class.
- Using Google Docs, type out your book trailer in persuasive essay form and turn document into a <u>QR code</u>.

- Use the website <u>Vocaroo</u> to record your voice narrating and describing your book and persuading people to read it.
- Use the website <u>Educreations</u> to create a book trailer.
- Create a Google Slide
 Presentation for your book
 trailer and use the chrome
 extension <u>screencastify</u> to
 record your Presentation.
- Dress up as a main character from the book and present to the class.
- Create a diorama presentation of a scene from the book.

- Use the website <u>Powtoon</u> to create your book trailer.
- Use the website <u>Animoto</u> to create your book trailer.
- Use iMovie via IOS app to create your book trailer.
- Use the website <u>Smore</u> to create a book trailer.
- Use the website <u>Piktochart</u> to create an infographic or presentation for the book trailer.
- Use the website <u>Padlet</u> and create a "timeline" of events in the story.

Supporting Language & Vocabulary Development

"Say It Another Way"
Word Wall
Christy McClain,
2022



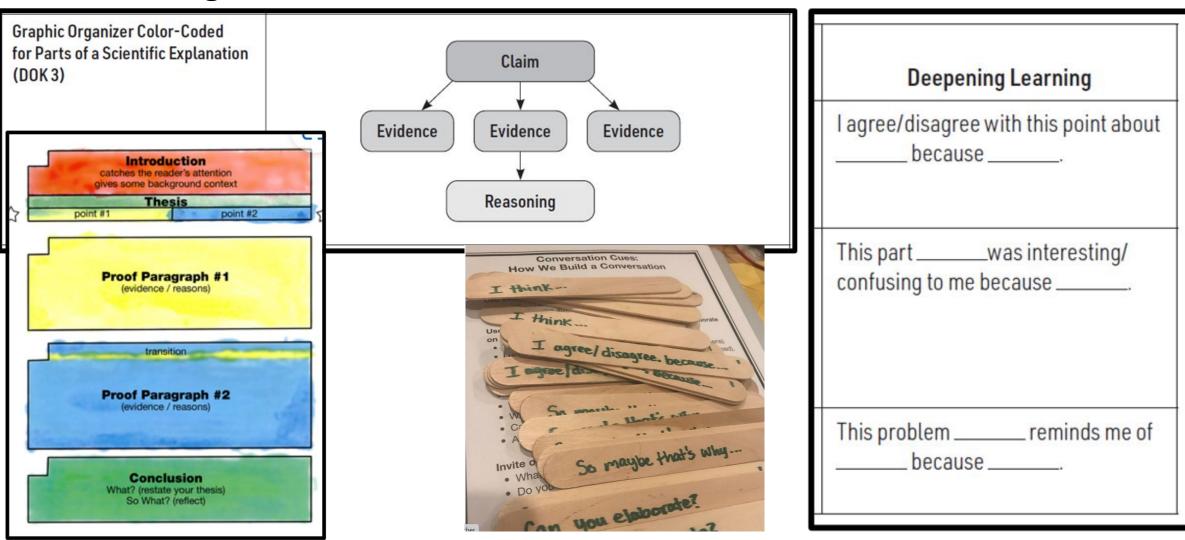
Facilitating Executive Functioning

"Collaborative Inquiry Planning" Karin Hess, 2018



Collabo	orative Inquiry Plannin	g Tool
estigation Team		
e		
AL: Describe the Task or Pr	oject	
are trying to find out		
cepts and Skills We'll Apply		
(Our Plan for Investigating	
Our Steps/Procedures What we'll do.	Equipment/ Resources List what we need.	Roles and Responsibilities Who is doing each task?
	.6 6.10	
cess Criteria – How will we k	now if we are successful?	
cess Criteria – How will we k	now if we are successful?	

Deepening Content Knowledge & Connecting to Big Ideas with Visual Organizers & Discourse



Design complex tasks, emphasizing student input and evidence-based solutions.

PBAs 1.0	PBAs 2.0	PBAs 3.0
Engaging projects and problem-solving tasks related to curriculum	Projects and problem- solving tasks embedded in curriculum	Real-world problems addressing complex open- ended questions
Teacher designed and teacher directed	Teacher designed and teacher directed with some student choice and	Engaging, student-driven, teacher facilitated
Rarely assessed, if at all	voice	Processes and products are assessed with clear
Subjective criteria (e.g., participation, creativity)	Products = summative assessments of learning	criteria
Missed opportunities to document learning	Success criteria and exemplars shared with students	Student voice/choice, self- assessment, and peer- assessment valued as evidence of learning

Moving from **EMOTIONAL** engagement to deeper COGNITIVE engagement

Universal Design for Learning Guidelines

The UDL Guidelines are a tool used in the implementation of Universal Design for Learning. These guidelines offer a set of concrete suggestions that can be applied to any discipline or domain to ensure that all learners can access and participate in meaningful, challenging learning opportunities.

Visit the UDL Guidelines (2)

AFFECTIVE NETWORKS: THE WHY OF LEARNING



Engagement

For purposeful, motivated learners, stimulate interest and motivation for learning.

Explore Engagement (2)

RECOGNITION NETWORKS: THE WHAT OF LEARNING



Representation

For resourceful, knowledgeable learners, present information and content in different ways.

Explore Representation (2)

STRATEGIC NETWORKS: THE **HOW** OF LEARNING



Action & Expression

For strategic, goal-directed learners, differentiate the ways that students can express what they know.

Explore Action & Expression



PBAs, Engagement, & David Kolb's Experiential Learning Cycle

(Adapted by Hess, 2023)

- WHY is this important to me? Driving or essential question, launch the topic with media, video, case study, event, etc. (teacher-designed and open-ended generates interest and student questions to investigate)
- WHAT are the facts, themes, concepts? Generalize from individual ideas: readings, lecture, build concepts/schema/connections, active listening (teacher-directed "micro" lessons help students to see patterns)
- HOW does this work in the real world? Groups process ideas, practice skills, investigate further (more student-directed, teacher coaches)
- WHAT IF...I could apply it in a personalized /novel way? Plan and develop a product to share, get peer feedback, self-assess, raise new questions or a call to action (student-directed, teacher coaches

2 Types of Performance-Based Assessments

Problem-Based Learning - Performance Tasks

A **student-centered** approach in which students learn about a subject by working in groups to **solve an open-ended problem**. This problem is what drives the motivation and the learning. The approach is also **inquiry-based** when students are active in creating/identifying the problem.

Project-Based Learning & Extended Projects

A **student-centered** approach to learning focusing on developing content knowledge through **extended projects** addressing a **real-world problem or answering a complex question**. Students develop a public product or presentation (beyond the classroom) to share their learning.

S-T-A-R-S

A Planning Strategy for Performance-Based Assessments with Student Choice (See examples in table with "?")

Scenario or Situation – Describe a real-world context for a problem, a challenge, or a complex task to be completed

Task(s) or investigation to be completed or problem to be addressed

Audience - who the information will be shared with

Roles for individuals or team members and Resources available to complete the task

Self-Assessment Success Criteria:

- Content: Major concepts, principles, or theories to demonstrate understand and make connections to Big Ideas/Essential Question/Driving Question
- Processes and thinking strategies (DOK) applied to complete the task(s), such
 as research, data analysis, creative problem-solving, design thinking,
 drafting a blueprint, etc.
- Product(s) that show evidence of what was learned (e.g., performance, product, model, teach/ inform/engage others, propose or test a solution)

Т	Α	R		S	
In this task, you will	Peers? Others?	Roles & Resources	Content Big Ideas	Processes Tasks	Product(s) of Learning
Determine how best to spend or earn a given amount of money	Convince the class your plan is the best plan	7	?	Decide how to research ideas Create spreadsheet	Business place with data, timeline Debate
Build or create a better way to	7	7	?	Plan, design, collect and analyze data	Build, test, and refine prototype
Should the oath or guidelines for judges be changed?	?	7	What is in the oath a judge takes? Are there penalties?	Research points of view, past cases	Role play Public service announcement
Choose one global issue -hunger, water, climate, health, etc.	7	Global organizations	7	Begin your research with a key word search	Call to Action
Redesign a floorplan with these criteria: Develop a thematic banquet menu	7	7	?	7	Present budget and design in support of proposal
Choose an environmental problem	7	Identify competing perspectives	Content specific or choose from 1-3 options	Analyze case study and related data	?
Investigate something you wonder about. Here is a chance to learn more about something you are interested in.	7	Internet, Experts Primary/ secondary sources Arts, lab, or construction materials/tools	?	Research/ gather information (interview, field study, etc.)	?
	In this task, you will Determine how best to spend or earn a given amount of money Build or create a better way to Should the oath or guidelines for judges be changed? Choose one global issue -hunger, water, climate, health, etc. Redesign a floorplan with these criteria: Develop a thematic banquet menu Choose an environmental problem Investigate something you wonder about. Here is a chance to learn more about something you are	In this task, you will Determine how best to spend or earn a given amount of money Build or create a better way to	In this task, you will Determine how best to spend or earn a given amount of money Build or create a better way to	In this task, you will Determine how best to spend or earn a given amount of money Build or create a better way to	In this task, you will Determine how best to spend or earn a given amount of money best plan is the best plan Build or create a better way to

Try creating a task prompt...

- Decide what content & processes students will transfer
- 2. Identify a real-world context for the learning
- 3. What input/choices will students have?

Engage students in metacognition and reflection before, during, and after each learning opportunity or lesson.

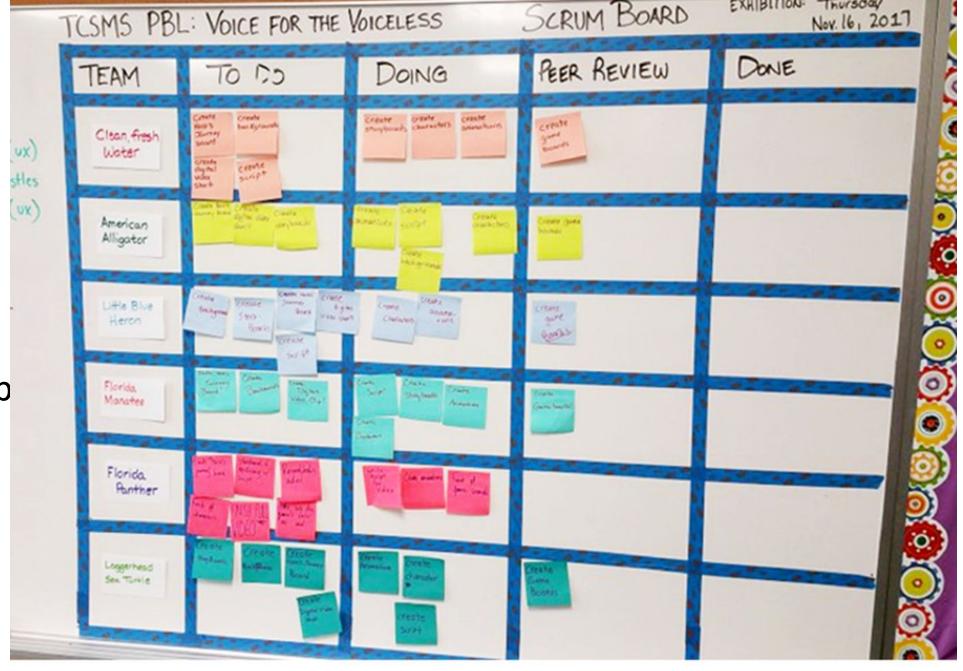


Using Peer-to-Peer Feedback to Improve Work Quality

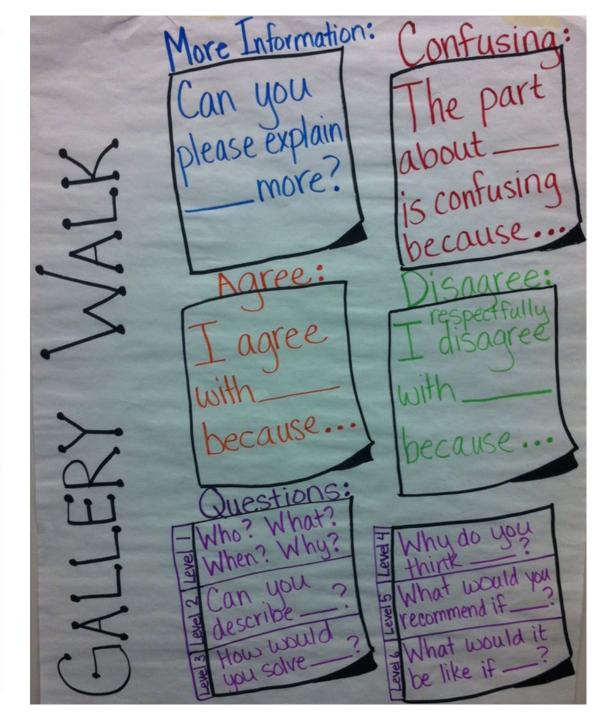
Use with short-cycle formative tasks or parts of longer performance-based tasks that integrate multiple academic skills and concepts with personal skills (creativity, collaboration, self-direction).

Date of Feedback:		
Feedback Provided by for		
* Please remember to specifically connect your feed	hack to the criteria in the Project Rubric	
Be Kind: In what specific ways does the work you reviewed show excellence or potential for excellence?	Be Specific: In what specific ways does the work you reviewed show a need for improvement?	Be Helpful: What specific ideas and potential action steps do you have to help improve the work you reviewed?

Build in Peer Group Critique/ Feedback **DURING LEARNING** With Multi-Step **Project-Based** Scrum Boards



Investigation Components	What to Look For	16	Notes / Feedback
Testable Question	 The question is clearly stated and can be answered using data from an investigation. 		
Hypothesis	 A prediction is stated that can be tested using observations or investigation. 		
Investigation Procedures	 The design (materials and procedures) matches the stated hypothesis. The variables are clearly identified – which variables stay the same, and what will be measured. Procedures are clear enough so that others can replicate it. 		
Data Displays	 Data are well organized and accurate Data are clearly labeled using charts, tables, graphs, or diagrams 		
Analysis and Conclusions	 Analyses or conclusions relate to the testable question and hypothesis. Conclusion(s) are accurate - supported by the data analysis. Specific data are used to support conclusions. 		
New Questions or Claims	 A new question or claim is considered that can extend thinking and investigation. 		



Students monitor
their progress and
identify evidence for
their Body of
Evidence
(Hess, Colby, & Joseph,
2022)



Student Self-Assessment Template: Tracking My Learning Pathway



Name:		Unit/Project:	
Tracking My Learning Pathy Competency Statement:	vay	Standard(s) I Am Working On:	
Performance Levels	My Learning Targets	My Evidence (and Dates)	
Extending My Learning 4	I can		
Demonstrating Proficiency	l can		
Making Progress	l can		
Working on the Basics	I can		

Using Reflective Journaling for Complex Tasks

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Sample Prompts

- How did you determine your focus and develop your ideas?
- What prior knowledge /skills did you apply (transfer)?
- How will your reflect what you learned?
- What decisions did you make to create your final product?
- What new insights are you starting to develop about the topic?
- What connections can you make to the Essential Question?

After reading and discussing dystopian literature, choose and research a present-day dystopia. Share your learning and insights in an infographic.

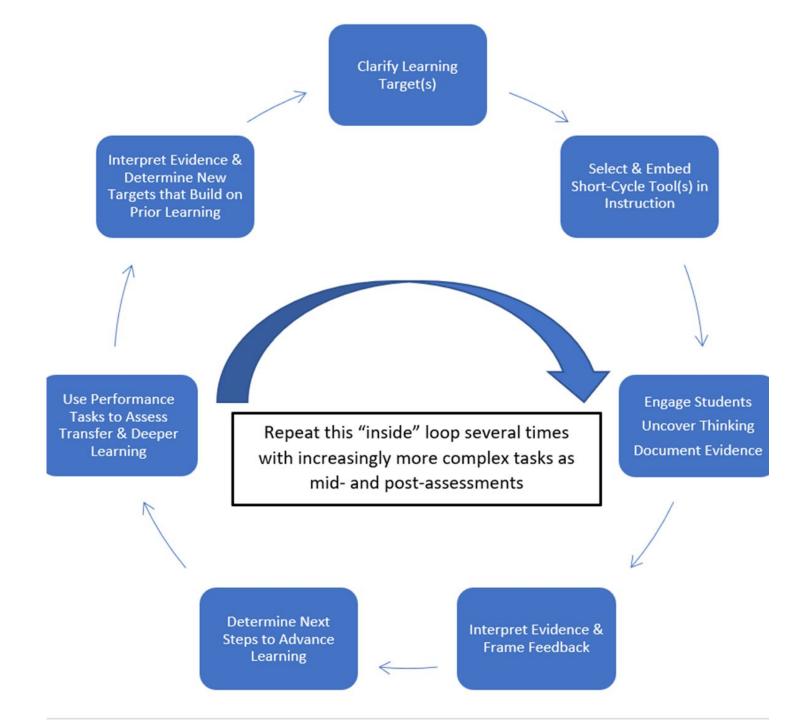
What learning can be assessed evaluating the product(s)?

What learning can be assessed with self-reflections?

Using Descriptors from Multiple Rubrics to Develop (Portfolio Defense) Prompts and Scoring Criteria Source: BEST Toolkit/Rubrics for Self-Direction, Collaboration, and Creative Thinking (JFF-NHLI, 2021-22)				
Self-Direction	Collaboration	Applying Creative Thinking		
SELF-AWARENESS Cite examples from your work to evaluate how you have expanded your strengths and interests by setting learning goals beyond assigned tasks.	SELF-AWARENESS & PERSONAL RESPONSIBILITY Analyze how your roles and responsibilities within the group dynamics demonstrated individual responsibility and enhanced group equity.	SELF-AWARENESS Analyze how using creative problem-solving processes helped you to pursue personal interests, seek out supportive resources or environments, or share ideas or products that positively affect others.		
INITIATIVE AND OWNERSHIP	COMMUNICATING	TOLERATING RISK & AMBIGUITY		
In what ways did you seek input to help you analyze the content and context of learning tasks in order to reshape, extend, or enhance your learning?	Cite evidence of contributing well- supported ideas and validating each team member's contributions with positive reinforcement and constructive feedback.	Evaluate the effects of approaches used and decisions made throughout the creative process and suggest how your learning /insights might be applied to challenge established social, cultural, or artistic norms.		
GOAL SETTING & PLANNING	DECISION MAKING & PROBLEM SOLVING	CULTIVATING IDEAS		
How did a project-based learning goal push your learning beyond the task and use feedback to improve the plan?	How did you work with your group to evaluate the effects of decisions made to resolve conflicts in terms of honoring each	Describe how you were able to convey your interests, personal insights, or novel ideas in solving a challenge		

Putting it All Together in An Actionable Assessment Cycle

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Clarify a Series of Learning Targets to Demonstrate Competency.

Which targets provide a foundation for deeper learning? Is there more than one potential PBA?

Competency Statement: The student will analyze how an author's content and rhetorical choices communicate a text's purpose.

Learning Targets:

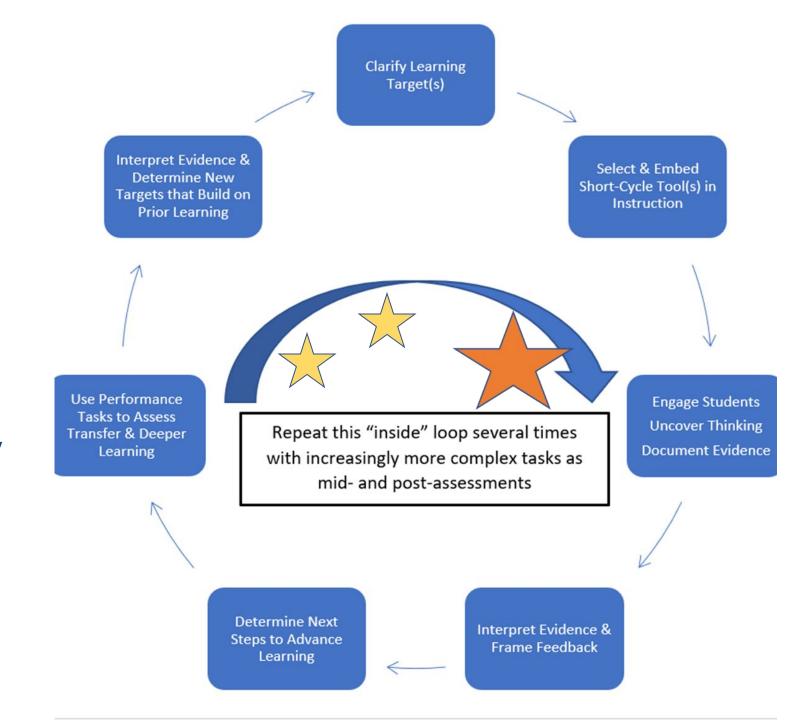
- I can determine the author's theme and purpose when viewing a piece of persuasive media.
- I can view a piece of persuasive media and identify the rhetorical strategies used by the author.
- I can evaluate the impact of an author's use of rhetorical strategies in a piece of persuasive media.



- I can compare and contrast the use of rhetorical strategies between authors on a particular topic.
- I can effectively use rhetorical strategies in my communication with others that best fit my audience to prove my point of view.



Begin with short-cycle formative tasks that lead to several PBAs of increasing complexity



Rhetorical Analysis Competency APPLYING RIGOR TO PBL-CBE | Karin Hess,

PhD (karin-hess.com)

Part 1 Learning Target I can...identify rhetorical strategies used by an author

	ACA Pathway (Arts and Communications)	BHA Pathway (Business and Human Services)	STEM Pathway (Science, Technology, Engineering, Math)
Part 1	Formative Assessment: Rhetorical Strategies Identification Complete a graphic organizer detailing the rhetorical strategies		
(DOK 1 and DOK 2) Identify author's rhetorical strategies.	 Choose a product that carries one or more brand (shoes, clothing, hamburgers, etc.). Select a brand and view an advertisement (may be print, video, or audio commercial) and identify which rhetorical strategies are used in the advertisement. Complete a graphic organizer detailing the rhetorical strategies you have identified. 	 Choose a highly debatable political issue (immigration, tax reform, gun laws, etc.). Select an election promise speech (may be via website, print, or video, etc.) that deals with the issue you chose and identify which rhetorical strategies are used in the article. Complete a graphic organizer detailing the rhetorical strategies you have identified. 	 Choose a highly debatable scientific issue (climate change, vaccination, stem cell research, etc.). Select a scholarly article or video that deals with the scientific issue you chose and identify which rhetorical strategies are used in the article. Complete a graphic organizer detailing the rhetorical strategies you have identified.

Related Resources

Hess Cognitive Rigor Matrices - Cognitive Rigor and DoK | Karin Hess, PhD (karin-hess.com)

A Handy Brain Model (8 min. video) Rigor by Design Excerpts | Karin Hess, PhD (karin-hess.com)

Blogs (rubrics, scaffolding, etc.) <u>BLOG | Karin Hess, PhD (karin-hess.com)</u>

Archives (BEST K-12 Self-Direction, Collaboration, & Creative Thinking Rubrics) Archived Postings | Karin Hess, PhD (karin-hess.com)

Excerpts Rigor by Design Excerpts | Karin Hess, PhD (karin-hess.com)

CBE and PLB REsources (Rhetorical Analysis example) APPLYING RIGOR TO PBL-CBE L Karin Hess, PhD (karin-hess.com)

LIFT Learning (Digital platform for building CB Bodies of Evidence) Project-Based Learning and Skills Assessment Platform - LiFT Learning™

Building Better Rubrics 6 Key Questions to Build Better Rubrics for Middle and High School Students | Edutopia

Video: Why Does Memorization Reign Supreme in Traditional Learning? - Education Reimagined - Education Reimagined (education-reimagined.org)



OCTOBER 24 – 26, 2022 | VIRTUAL

Thank you for joining us!

Share Your Thoughts

Participate in our one-minute poll (link in chat box)

