

## Nudging Toward Inquiry Part I

HASL  
March 1, 2014, 90 minutes

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@activelearning

Follow along with today's  
slides if you like!  
<http://bit.ly/fontblog>



"Bulb Fiction" by Uwe Niederberger on Flickr.  
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<http://flickr.com/photos/xenos-uwe/8186238592>

### MORNING

What is inquiry?

CCSS Tips

Evolution, Not Revolution

Nudging Strategies

### AFTERNOON

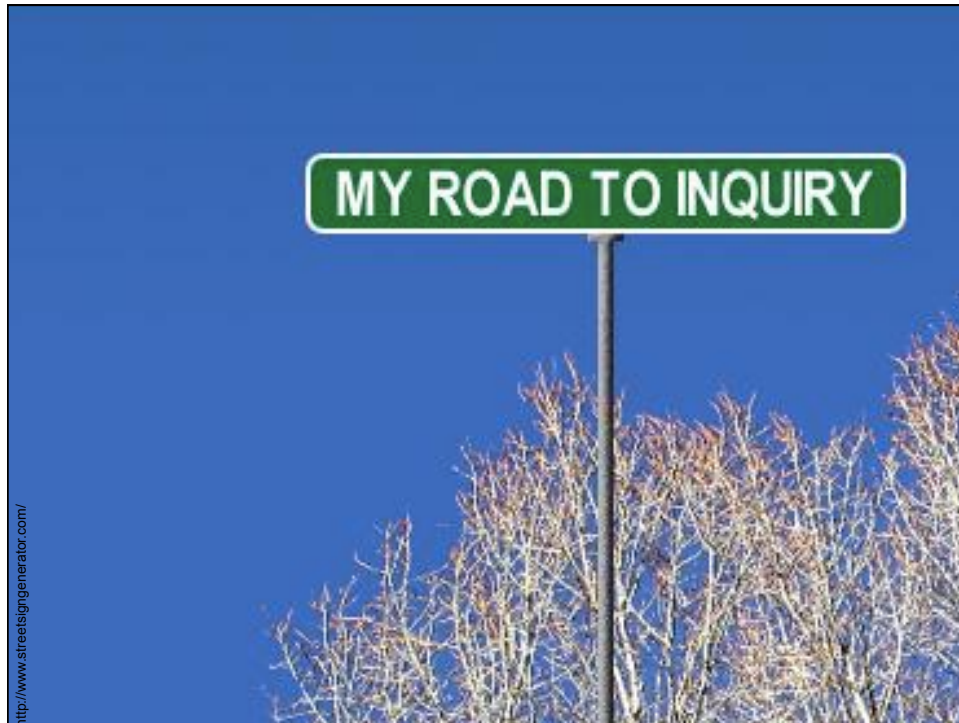
Hands-On Inquiry Practice

Debrief

Action Steps

Follow along with today's slides!  
<http://bit.ly/fontblog>





### **We All Came From Research Projects Like These:**

- What was his early childhood like?
- What is the country's greatest export?
- What are its top tourist attractions?
- What did this mathematician discover?





Image: canada.com

21st-CENTURY LEARNER

- Inquiry, thoughtfulness, problem-solving
- Using and evaluating information
- Social, collaborative teaching and learning
- Authentic work tasks, products, and audiences
- Librarian as instructional partner throughout process

- “Dump and go”: finding answers to specific close-ended, teacher-generated questions
- Finding information
- Isolated, individual learning
- Contrived tasks without resonance to student
- Librarian as an accessory to learning (“a clerk could do it”)



school of  
information  
**M**

**Connecting people, information, and technology  
in *more valuable ways***

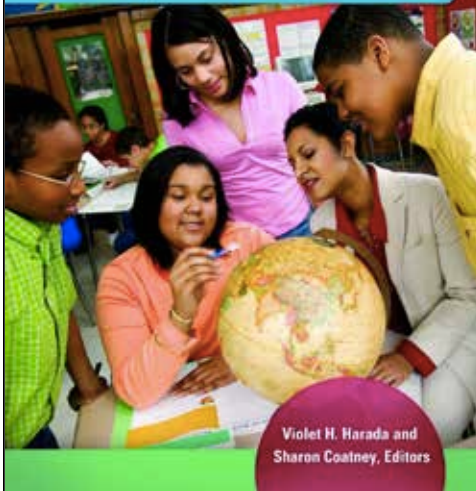
**Why does inquiry matter in the era of CCSS?**



Texas Co., Laboratory from the SMU Central University Collection on Flickr Commons  
<http://flickr.com/photos/999110011/4916322130/>

**Inquiry** and the  
**Common Core**

Librarians and Teachers Designing Teaching for Learning



Violet H. Harada and Sharon Coatney, Editors

**Allison Zmuda says ...**

(excerpted from Foreword to *Inquiry and the Common Core*, Harada & Coatney, editors)

## Research and media skills blended into the Standards as a whole

To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today’s curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in a separate section.

CCSS ELA Standards, page 4

**Overall Claim for Grades 3-8**

“Students can demonstrate progress toward college and career readiness in English language arts and literacy.”

**Overall Claim for Grade 11**

“Students can demonstrate college and career readiness in English language arts and literacy.”

**Claim #1 – Reading**

“Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts.”

**Claim #2 – Writing**

“Students can produce effective and well-grounded writing for a range of purposes and audiences.”

**Claim #3 – Speaking and Listening**

“Students can employ effective speaking and listening skills for a range of purposes and audiences.”

**Claim #4 – Research/Inquiry**

“Students can engage in research and inquiry to investigate topics, and to analyze, integrate, and present information.”

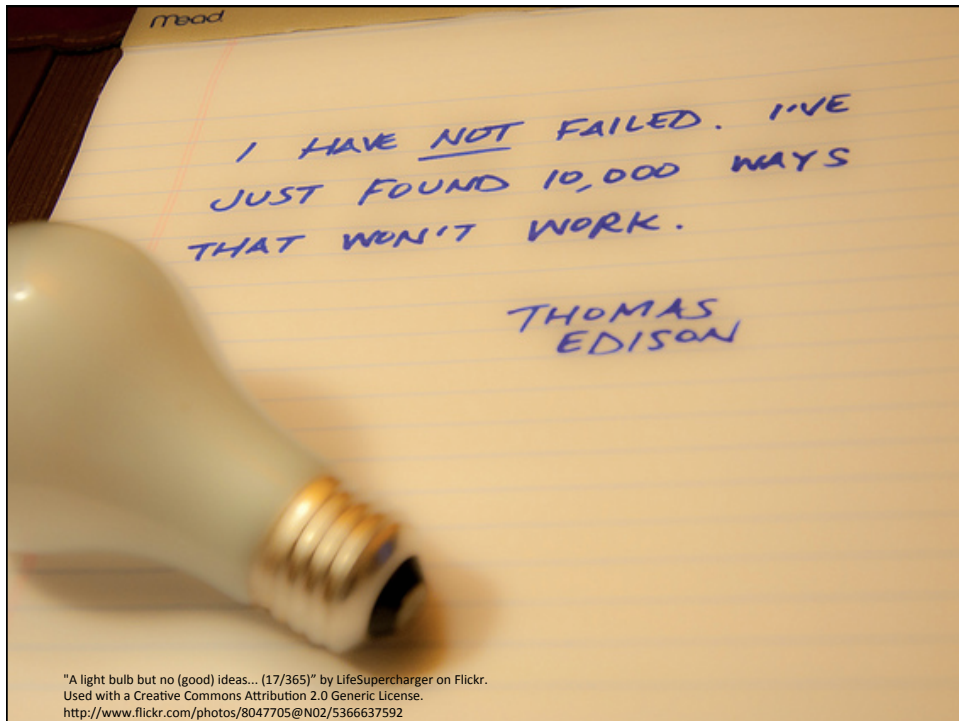
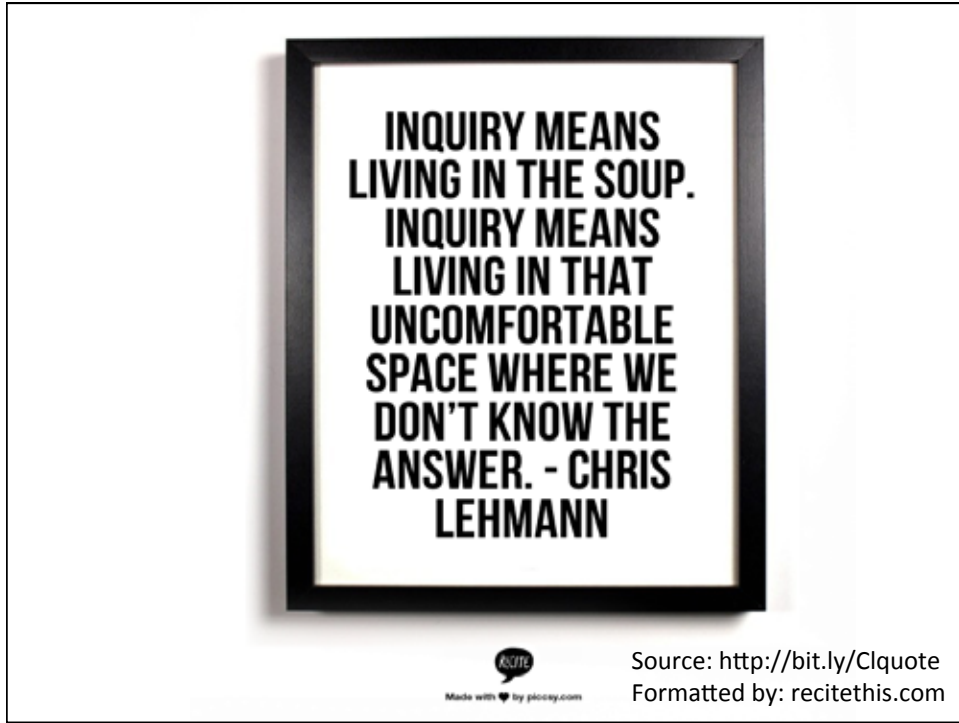
**“Students can engage in research and inquiry to investigate topics, and to analyze, integrate, and present information.”**

The screenshot shows the Smarter Balanced Literacy Claims interface. A red circle highlights the 'Performance Tasks' column in the table below. The table lists various literacy claims and their corresponding performance tasks.

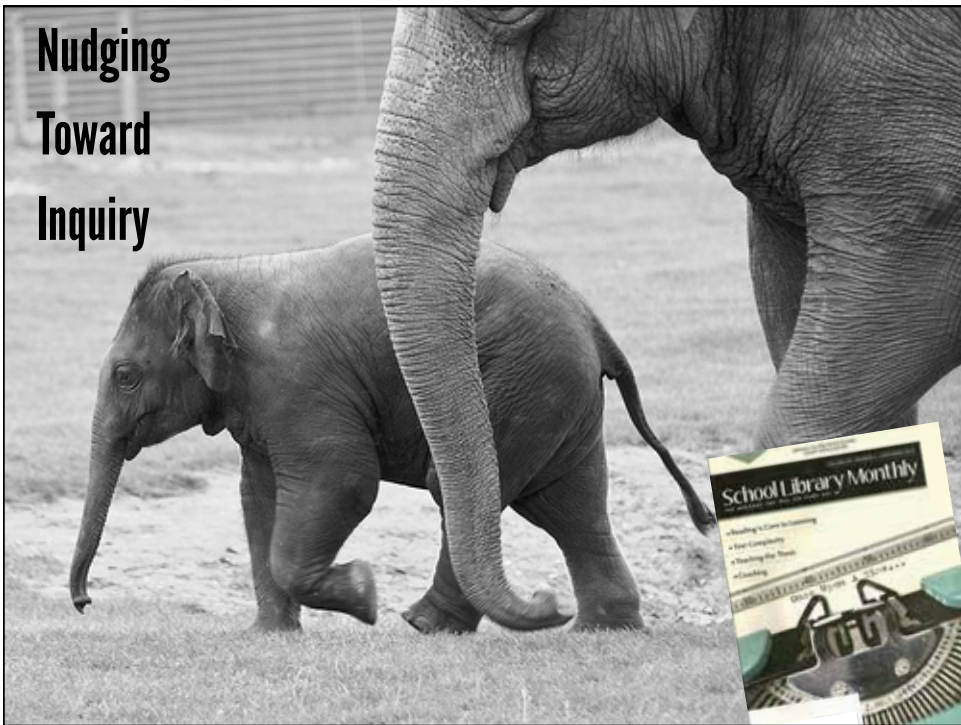
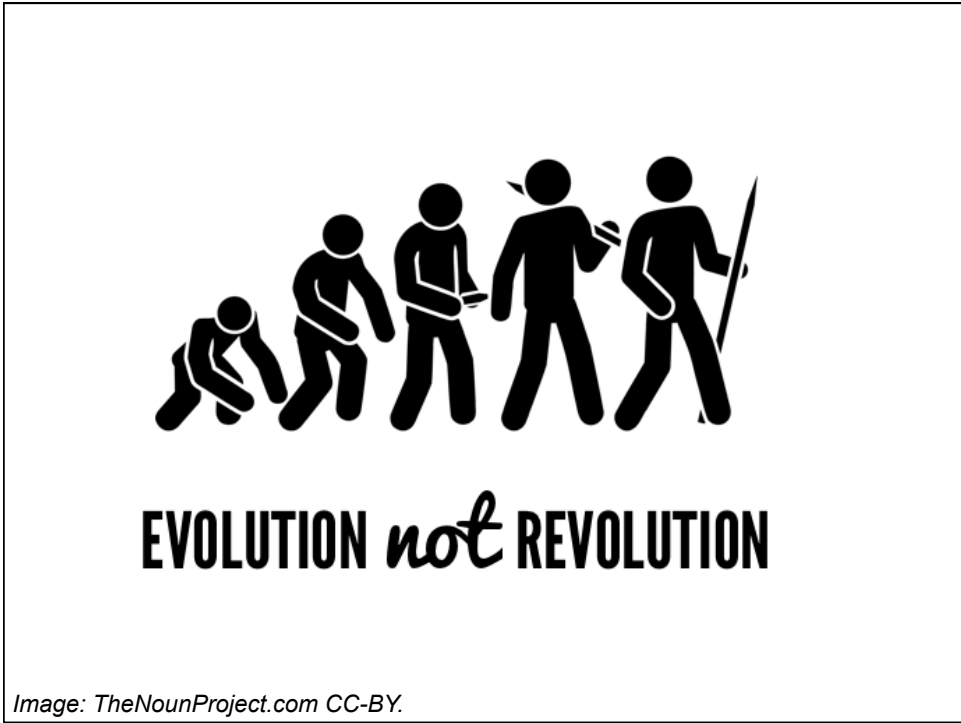
Grade Band	Reading	Writing	Speaking & Listening	Research/Inquiry	Performance Tasks
3-5	Craftsive Reading 1	Writing - Claim	Speaking in Speech 1	Argumentation	Argumentation
	Craftsive Reading 2	Writing - Claim	Speaking in Speech 2	Argumentation	Argumentation
	Reading in the Real World 3	Writing - Claim	Speaking in Speech 3	Argumentation	Argumentation
6-8	Phonics in the Real World 1	Writing - Claim	Speaking in Speech 1	Argumentation	Argumentation
	Phonics in the Real World 2	Writing - Claim	Speaking in Speech 2	Argumentation	Argumentation
	Phonics in the Real World 3	Writing - Claim	Speaking in Speech 3	Argumentation	Argumentation
High School	Arguments in the Real World 1	Writing - Claim	Speaking in Speech 1	Argumentation	Argumentation
	Arguments in the Real World 2	Writing - Claim	Speaking in Speech 2	Argumentation	Argumentation
	Arguments in the Real World 3	Writing - Claim	Speaking in Speech 3	Argumentation	Argumentation

http://www.smarterbalanced.org/wordpress/wp-content/uploads/2012/09/Smarter-Balanced-ELA-Literacy-Claims.pdf

**That sounds very inspirational, but inquiry is also ...**







## Stripling's Inquiry Model

(SLM, 4/07 and 9/09)

- **Connect**  
(awaken prior knowledge)
- **Wonder**  
(generate possible questions)
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(discover patterns; draw conclusions)
- **Express**  
(create product)
- **Reflect**  
(consider effectiveness of process/product)



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**REMEMBER:  
INQUIRY ISN'T  
LINEAR.  
IT'S ITERATIVE.**



# Connect

It's All About Prior Knowledge

- Awakening it
- Building it



Connect ~ Wonder ~ Investigate ~ Construct ~ Express ~ Reflect

## Do you know what this zone is for?



<http://www.flickr.com/photos/dambert/253845905/>

**Milwaukee Airport:  
Where you go after going through security to put  
your belt/shoes/jacket back on**



**Is this funny? If so, why?**

**WHY DO BIRDS SUDDENLY  
APPEAR EVERYTIME YOU  
ARE NEAR ?**



**BECAUSE  
I AM A  
WORM**

<http://bit.ly/doodlebyandre>

## Is this funny? If so, why?



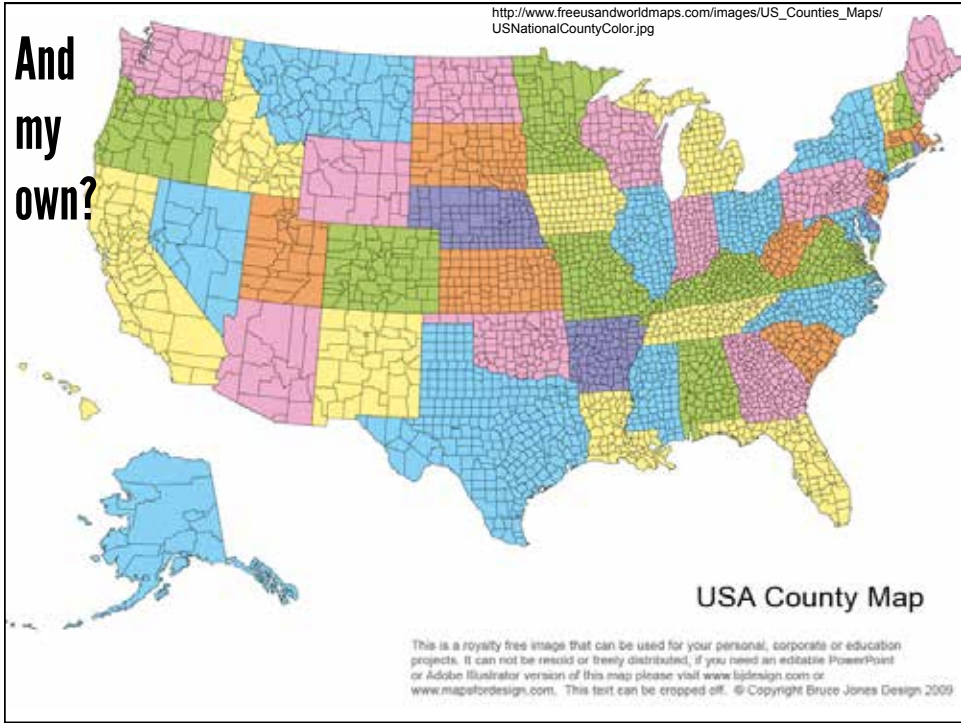
*Translation tip*

*<http://bit.ly/janeaustenatthesuperbowl>*

## And one more?



Copyrighted by Style Weekly; comic by Ed Harrington  
<http://www.styleweekly.com/richmond/the-hr-department/Content?oid=1729565>



**If I don't know anything,  
I can't build good questions.**

	K	W	L
Ogle 1986	What do I <b>know</b> ?	What do I <b>want</b> to know?	What have I <b>learned</b> ?
KWL a la Sandy Buczynski	What do I <i>think</i> I <b>know</b> ?	What do I <b>wonder</b> ?	What have I <b>learned</b> ?

What questions do you have about Higgs boson?

Ummm, what movies has he been in?

Tip: Make a K-W-L template on your wiki or as a GoogleDoc, and you'll always have it ready to go!

Connect ~ Wonder ~ Investigate ~ Construct ~ Express ~ Reflect

## Connect: What Can Go Wrong?

- Time
  - Try: A reading the night before
  - Try: A primary source image in a discussion forum for homework
  - Try: A 2-minute video/audio clip or a photo discussion in class
  - Try: A 3D object
- Note: problems with Connect may not show up until the next phase, which is...

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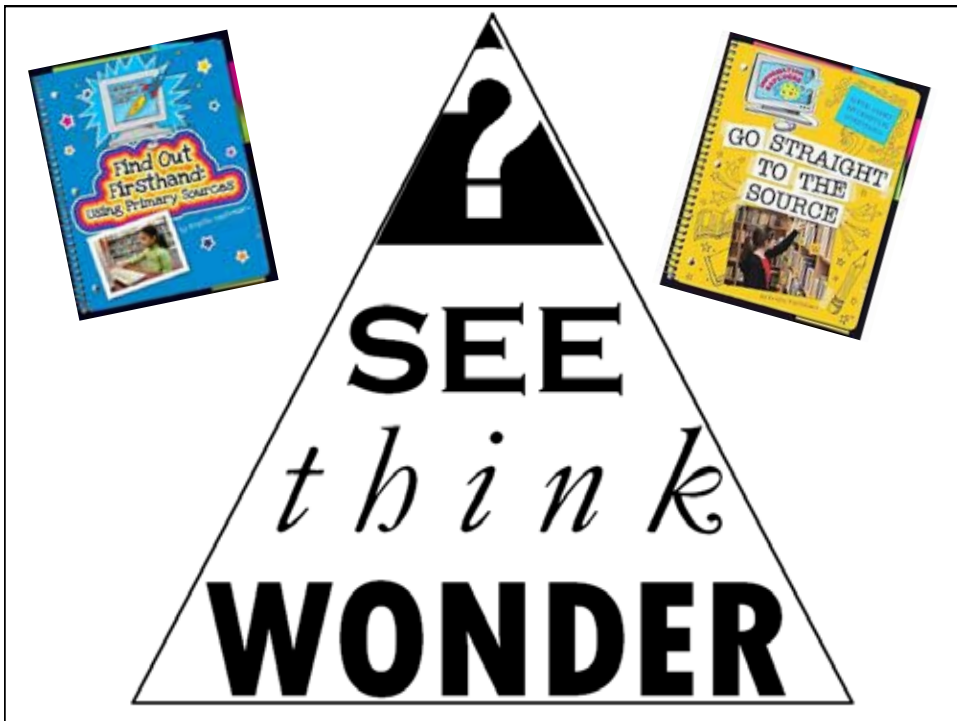
# Wonder



- Questions
- Brainstorming in groups
- Hypotheses
- Outline objective, then give questions
- Class graphic organizer based on discussion



Connect ~ Wonder ~ Investigate ~ Construct ~ Express ~ Reflect








## Citation Information

8-20 Mrs. Naguchi and two children, Manzanar Relocation Center / photograph by Ansel Adams, 1943. Image courtesy of Library of Congress, Prints and Photographs Division, Adams, Ansel, 1902- Manzanar War Relocation Center photographs Collection, [reproduction number LC-DIG-ppprs-00246 DLC]




<http://www.bringinghistoryhome.org/fifth/unit-2/activity-8>



## Pool Your Knowledge!

- **Analog**
  - Whiteboard (*bansho*)
  - Sticky notes
- **Digital**
  - Padlet.com (formerly Wallwisher)
  - openEtherpad.com
  - Wiki page
  - Google Docs



## Wonder: What Can Go Wrong?

- **Time**
  - Try: not every project needs to follow each step
- **Low level questions**
  - Try: More background knowledge
  - Try: Non-textual modalities (e.g., video, audio, images)
- **Lack of engagement**
  - Try: Group work, team brainstorming challenges a la Boggle

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## Investigate (Info Lit)

- Search strategies
- Credibility
- Topic Scope
- Popular vs. Scholarly Sources
- Confusion with formats

Connect ~ Wonder ~ Investigate ~ Construct ~ Express ~ Reflect

<http://www.flickr.com/photos/238103586/24516465>

# GOAL:

Learning *through*  
resources, not *about*  
resources

## Investigate: What Could Go Wrong?

- **Poor search skills/underdeveloped vocabulary**
  - Try: PD *for teachers* on better Google search strategies
  - Try: <http://mashable.com/2011/11/24/google-search-infographic/>
- **Poor sources**
  - Try: more teacher PD
  - Try: Valenza's video testimony idea
- **Too text-heavy**
  - Try: Flickr Commons, American Memory, video archives

## Investigate: What Could Go Wrong?

- **Underdeveloped resource evaluation skills**
  - More teacher PD!
  - More prior knowledge time with students
  - Google Custom Search
- **Students only want Google**
  - Help them evaluate URLs before they click
  - Not all open web is bad
  - Bake source quality into the grade
  - Get a guest speaker from college classroom or library

## Investigate: What Could Go Wrong?

- **Topic is too narrow**
  - Try: mini-conferencing to nudge it wider
- **Topic is too wide**
  - Try: “You have enough here for a TV marathon about the topic, but we only have time for one episode. What should that one episode focus on?”
- **Topic is unfocused**
  - Try: next slides



**Frame the Project**

Select a lighthouse. Tell us the history of the lighthouse, its first keeper, the kind of lens it has, where it is located, and whether it is on the mainland or an island. *Spelling and grammar count!*

OR

The Governor of Michigan has proposed selling off ten lighthouses in order to reduce state costs. Identify an existing lighthouse that could be turned into a new kind of business to profit our state. Use PowerPoint to create a proposal you can share at her next open meeting. Think about your audience when planning!



## Framing Strategies

- **Situate the topic in the student's home, work, school, or social life.**
  - How would this impact your family?
  - What if this were in your backyard?
  - How should the principal react to \_\_\_\_?
- **Tell a story. Ask students to do research to finish it.**
  - The three pigs want to build another house. The hardware store is out of straw, wood, and brick. What would be another good insulator? Why?
- **Flip history.**
  - How might the U.S. be different today if the war ended at Gettysburg instead?



## Your Turn: Turn and Talk

- **Situate the topic in the student's home, work, school, or social life.**
  - **Tell a story. Ask students to do research to finish it.**
  - **Flip history.**
- How would you revamp?**
- Research a medieval guild.
  - Describe an alternative energy.
  - Research a pet you would like.
  - Describe one of the ancient cities along the Nile.

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## Construct



- What patterns in data/info do I see?
- What does all of this mean?
- New round of graphic organizers for sensemaking
- Pooling knowledge (*bansho*, discussion, wikis/Google Docs)

Connect ~ Wonder ~ Investigate ~ Construct ~ Express ~ Reflect

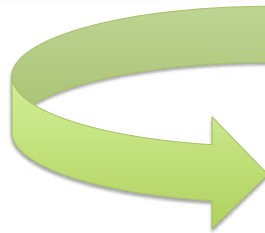


## Giraffe

From Wikipedia, the free encyclopedia

*For other uses, see [Giraffe \(disambiguation\)](#).*

The **giraffe** (*Giraffa camelopardalis*) is an African even-toed ungulate mammal, the tallest living terrestrial animal and the largest ruminant. Its specific name refers to its



- Giraffa camelopardalis
- African
- Even-toed
- Ungulate
- Mammal
- Tallest
- Largest
- Ruminant

## Construct: What Could Go Wrong?

- **Teachers (or librarians!) may not have learned digital-age research themselves**
  - Some got by in college just reading abstracts
  - In past, just finding information was a success
  - The rules have changed!
  - Try: Offer PD hours to help them learn to be better researchers for their own ongoing coursework

## Construct: What Could Go Wrong?

- **Step gets skipped**
  - Try: Post-mortem with teacher
    - “How did you feel?”
    - “Did you enjoy reading them?” (Teachers don’t like being bored, either!)
    - “I wonder if you could help me try something next time ...”

## Construct: What Could Go Wrong?

- **Students don’t know how to synthesize**
  - Try: Scale back to classic essay
    - CCSS: supporting arguments with evidence
  - Try: Prompts and graphic organizers
    - “You said A, B, and C. Mash those up and make the idea fit on a bumper sticker/on a Tweet”
    - “I think \_\_\_\_\_ because \_\_\_\_\_.”
  - Try: Provide examples!
- **Time!**
  - Try: Skip “making a product”
  - Try: Not to cave! This is the big stuff!
  - Try: smaller projects that encompass just a few steps

## Stripling's Inquiry Model

(SLM, 4/07 and 9/09)

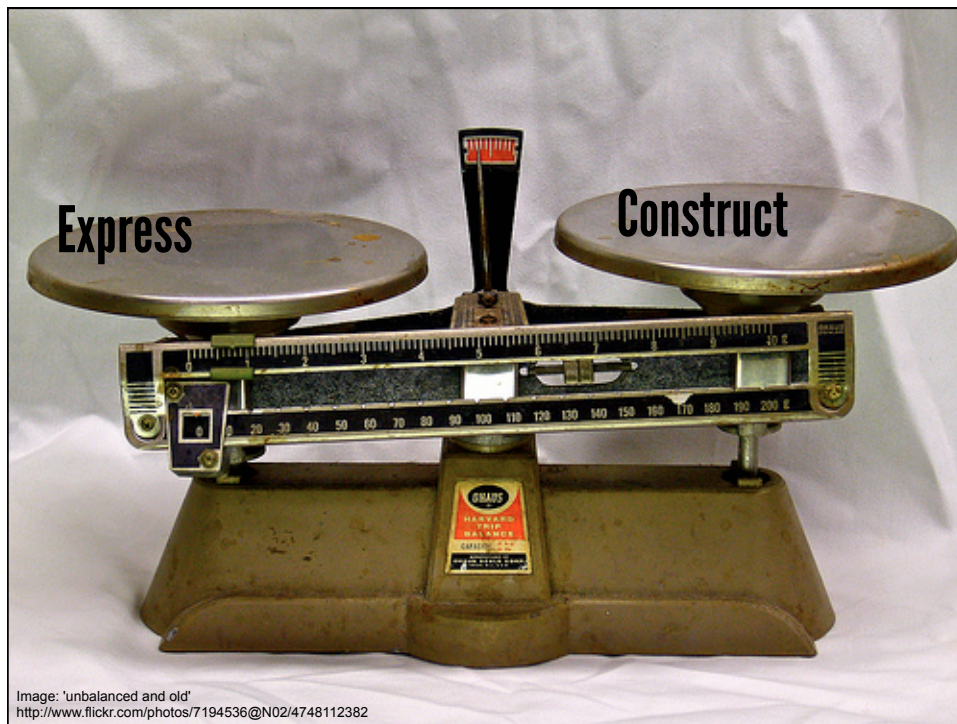
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# Express



Connect ~ Wonder ~ Investigate ~ Construct ~ Express ~ Reflect

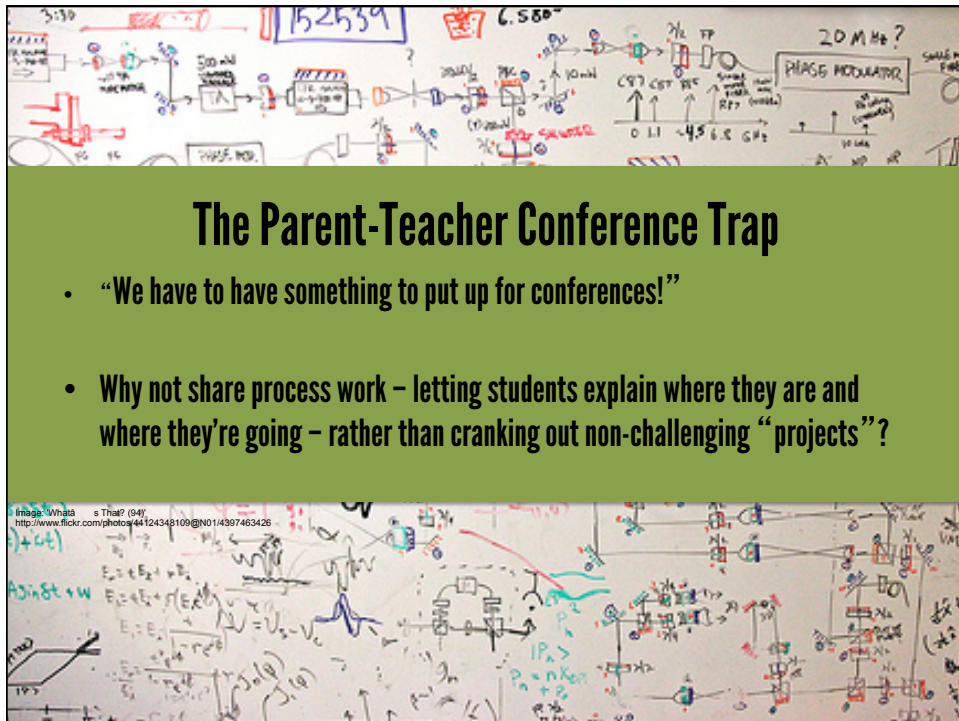


## Express: What Could Go Wrong?

- **Too much time spent on aesthetics at the expense of content/processing**
  - Try: Choose tech tools judiciously
  - Try: Weigh the delight of novel tech tools against the orientation time it takes to learn them
  - Try: Set deadlines and prioritize content steps
  - Try: Review rubrics and guidelines; often, we accidentally over-emphasize aesthetics/layout

## Express: What Could Go Wrong?

- **Too many people in a group, too many idle hands**
  - Try: Recalibrate collaborative work; make sure everyone has a similar *cognitive load*
- **Episodic work, not work that builds over time**
  - Try: Outlining (I know, it's old school)
- **Inauthentic products – “playing school”**
  - Try: “What would a real \_\_\_\_\_ create with what s/he has learned/”
- **Typing Speed**
  - Try: Oral sharing instead of making something
  - But remember that upper el has a typing speed goal in CCSS



The image shows a whiteboard filled with hand-drawn circuit diagrams and mathematical equations. The top section features a circuit diagram with components like a transformer, capacitors, and a phase modulator. The bottom section contains various mathematical formulas, including  $E = E_1 + E_2 + E_3$ ,  $A = \sin \theta + w$ , and  $E = E_1 + E_2 + E_3$ . The diagrams are drawn in black and red ink, with some components labeled with numbers like 152539 and 6.580.

## The Parent-Teacher Conference Trap

- “We have to have something to put up for conferences!”
- Why not share process work – letting students explain where they are and where they’re going – rather than cranking out non-challenging “projects”?

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## Reflect

©Close up of the Thinker, by Auguste Rodin. CC-BY-2.0. http://www.flickr.com/photos/62747711/3002209695/

Connect ~ Wonder ~ Investigate ~ Construct ~ Express ~ Reflect

## Reflect: What Could Go Wrong?

- **Gets saved until the last minute and then (surprise!) time runs out**
- **Kids who need to reflect most are still working during “reflection time”**
  - Try: Short reflections throughout process
  - Try: Pre-made exit slips (smiley face/frown; “I need help with...”)
  - Try: Mid-project form letters to instructors
  - Try: One-minute essays (index cards)
  - Try: Mini-conferences
  - Try: Video confessionals

## Stripling’s Inquiry Model – **WE DID IT!**

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# Lunch!

- Vendor presentations
- Visit the AHA table
- Download slides or visit resources (<http://bit.ly/fontblog>)
- Have fun catching up with colleagues

# See You After Lunch!

font@umich.edu  
@activelearning  
SLIDES: <http://bit.ly/fontblog>

