



Session 3: Using Visualization to Promote Active Reading and Metacognition

2026 Deb Talbot Summer Institute

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Session 3 Overview

Part I

9 AM	Warm Up: Defining Active Reading
9:15 AM	Strategy 1: Color-Coded Annotations
9:45 AM	Exercise/Discussion
10 AM	Strategy 2: Graphs and Maps
10:15 AM	Exercise/Discussion

Part II

10:40 AM	Defining Threshold Concepts and Metacognition
10:55 AM	Strategy 3: Translating to Images
11:10 AM	Putting Strategies into Practice
11:40 AM	Shareout and Discussion

What is “Active” Reading?

Warm Up: Compare and Contrast

Passive (??) Reading

- Listening (like an Audiobook)
- Aimless
- Skimming/reading for completion
- Immersive (reading from 'inside')
- PurposeLESS
- Jumping/speed reading
- Distracted

Active Reading

- Annotating
- Focused or direction-oriented
- Detail-oriented/reading for knowledge
- Academic (taking notes, reading to question)
- PurposeFUL
- Fully taking in each word, sentence, etc
- Receptive and engaged

- **Takeaways**

- There's a lot of reasons for unengaged reading beyond motivation or interest, from time management to outside obligations to preparation
- We're looking for strategies that can respond to specific CAUSES of passive reading

Why These Strategies?

- Engage students of many different skill levels
- Foster productive levels of difficulty/confusion
- Most work well in collaborative/cooperative contexts

Strategy 1: Color-Coded Annotations

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- **Why Color Code?**
- **Best Practices and Accessibility**
- **Tools and Technology**
- **Activities and Opportunities**
- **Exercise and Discussion**

Why Color Code? (1 of 2)

- Enhances “**pre-reading**” activities (scanning, skimming)
- Reduces cognitive overload
- Organizes dense information into manageable chunks

Why Color Code? (2 of 2)

- Highlights **key elements, connections, and distinctions**
- Reveals **micro- and macro-patterns** that make argumentative writing effective
- Can help sustain interest and improve **comprehension**

Best Practices & Guidelines

- Keep system legend consistent
- Limit color variety (**3-4 colors max**)
- Introduce gradually
- Allow sufficient time for training

Keeping Systems Accessible

- Use high contrast to improve visibility
 - Things that look good on paper might not translate to projector, and vice versa
- Don't rely solely on color
 - Colors need to be tied to concepts for them to be 'sticky'
- Provide secondary textual cues

Tools and Technology

- **Adobe Acrobat**
- Microsoft Word and Google Docs
- LMS Annotation Tools (Canvas, etc.)
- eReader Annotation Tools (often with sharing options)

What Can You Do with Color Coding?

- Pre-code/annotate difficult texts
- Have students code...
 - assigned readings/passages
 - their own writing
 - each other's writing
- Have students compare and discuss each other's coding decisions

Learning Opportunities

- Highlight moments of consensus and debate
- Explore moments of confusion
- Gain visibility into challenges students face

Big-Picture Objectives

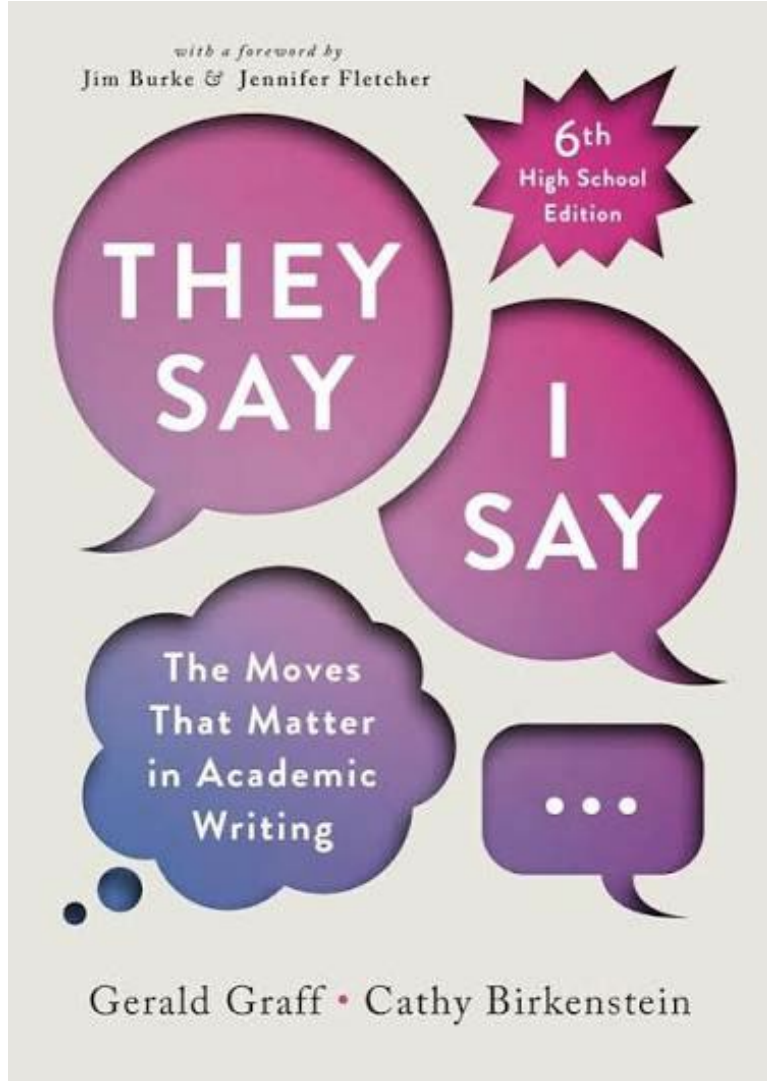
- Build readerly strategies, expectations, and intuitions
- Help students articulate those intuitions, often prior to mastering specialized terms
- Level set and “calibrate”
- Promote “reading like a writer” with attention to form as well as content

Highlighting Key Concepts and Distinctions in (Academic) Writing

- Agreed-Upon “Facts” vs. Debatable Claims
- Summary vs. Analysis
- Ethos vs. Pathos vs. Logos
- Secondary Sources vs. Primary Sources
- “They Say” vs. “I Say” Claims

Highlighting Key Patterns in Academic Writing

- Summary → Analysis
- ICE (Introduce, Cite, Explain)
- “They Say” → “I Say”



- Emphasizes the “conversational” structure of academic writing
- Demystifies academic debate:
 - “Yes...”
 - “No...”
 - “Yes, But...”
- Features effective, conventional templates for presenting argument

Example Peer Workshop Exercise (Part 1)

- Pre-workshop prompt: *Write a short analysis of MLK Jr's "Letter..."*
- Workshop prompt:
 - Color code three student samples
 - Compare and discuss your coding with your peers

They Say (Green)

- Basic summary or paraphrase of other people's ideas
- Direct quotations
- Key signal phrases:
 - *King argues/says...*
 - *Many people believe...*

I Say Moments (Yellow)

- Original, debatable claims
- Original analysis
- Personal opinions
- Evaluative Terms (*good/bad*)
- Key signal phrases:
 - *"I argue/feel/think/agree..."*
 - *But/however*

Some Challenges

- Students remember the code but not the meaning
- Students will choose low visibility colors in assignment submissions (digital)
- No standardized systems, making transfer/translation harder

Strategy 2: Graphs and Maps

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- **Definition and Examples**
- **Why Use Graphs and Maps?**
- **Tools and Technology**
- **Exercise and Discussion**

Definition and Examples

- Visual representations that abstract away some elements to focus on key ideas and relations
- Character maps/webs, story maps, Venn diagrams, etc.
- Can be either descriptive or evaluative

Why Use Graphs and Maps?

- Reduce complexity and cognitive load
- Provide accessible entry points
- Promote critical thinking and synthesis

Tools and Technology

- Miro, LucidChart, and/other "whiteboard" applications (often LMS-integrated)
- Analog chalkboard or whiteboard

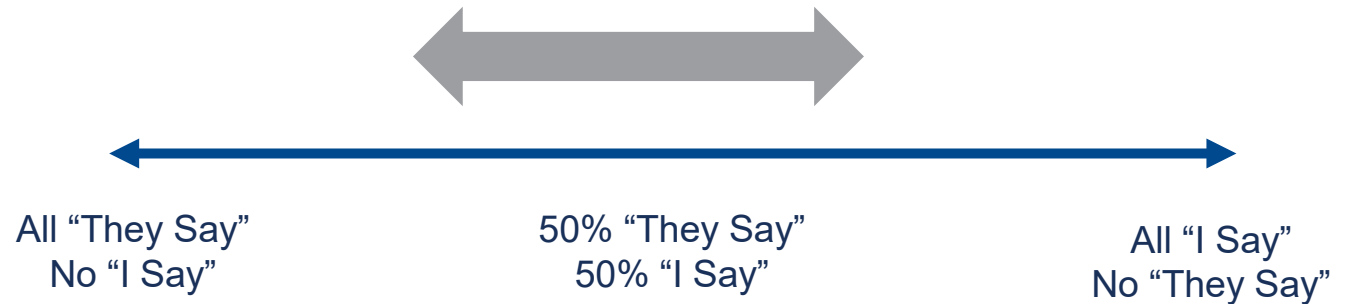
Example Peer Workshop Exercise (Part 2)

- Preparatory Work: Read and code three student samples
- Workshop prompt:
 - Map these samples on the provided graphs
 - Evaluate the quality of each analysis
 - Suggest revisions for less effective samples

Graph #1

They Say/
I Say
Balance

“Map student samples A-C along the graph”



Graph #2

Summary/
Analysis
Balance

“Map student samples A-C along the graph”



All Summary
No Analysis

50% Summary
50% Analysis

All Analysis
No Summary

Graph #3

Overall Quality of Analysis

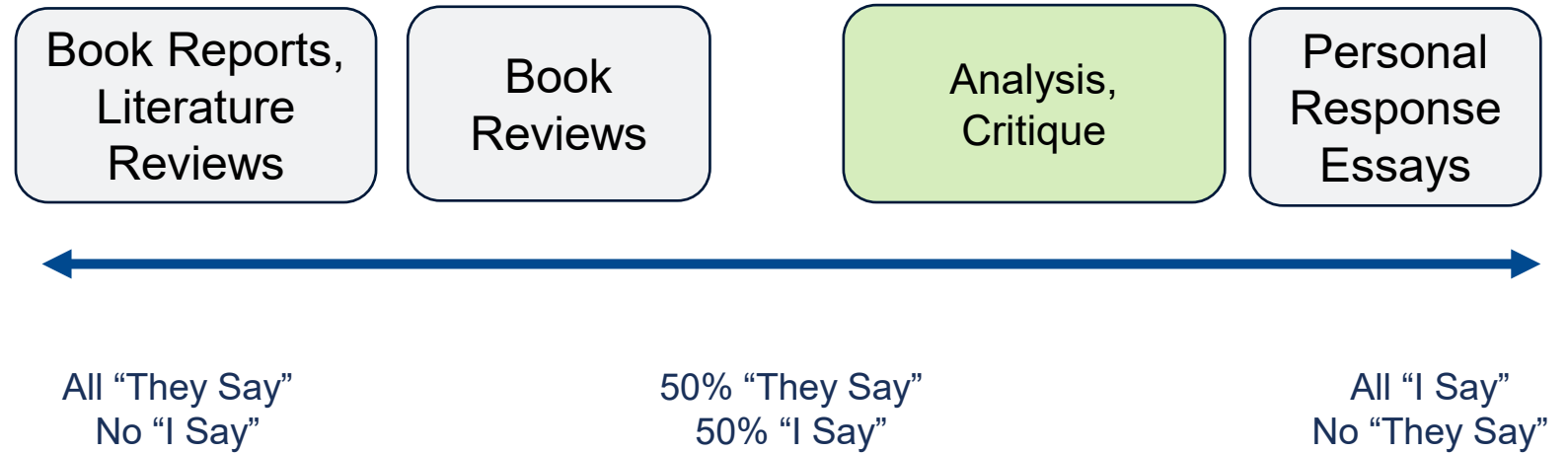
“Map student samples A-C along the graph”



Graph #1

They Say/
I Say
Balance

- Different genres/types of writing fit best on different parts of the graph!
- There isn't one correct place to be, it depends on what you're reading/writing!



Other Things to Map in Academic and Literary Contexts

- Tone (Serious vs. Humorous)
- Style (Basic vs. Advanced)
- Orientation (Skeptical vs. Sympathetic)

10 Minute Break

Metacognition and “Threshold Concepts” of Writing

**Metacognition: self-
reflection for continual
improvement**

Threshold Concepts of Writing

“...ideas that are so central to understanding a particular subject that a learner can’t move forward in that area without grasping them” (Wardle and Downs, *Writing about Writing*, 8)

Threshold Concepts

Writing is a
Process that
Can Be Studied

All Writers Have
Something to
Learn

Writing is Impacted
by Identities and
Prior Experiences
(Literacy Narrative)

“Good” Writing
is Contextual

People Collaborate
to Get Things Done
With Writing
(Discourse Community
Analysis)

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Strategy 3: Translating to Images

Assignment Idea: Visualize Your Process

- Draw a picture of your writing (or reading) process
- Write a short reflection that explains your choices
- Return to and reflect on your beginning-of-the-semester picture

Assignment Idea: Visualize Your Argumentative Strategy

Visualize your strategy for “breaking into the academic conversation” about your research topic



Figure 3. The picking-a-fight strategy

High Risk / High
Reward



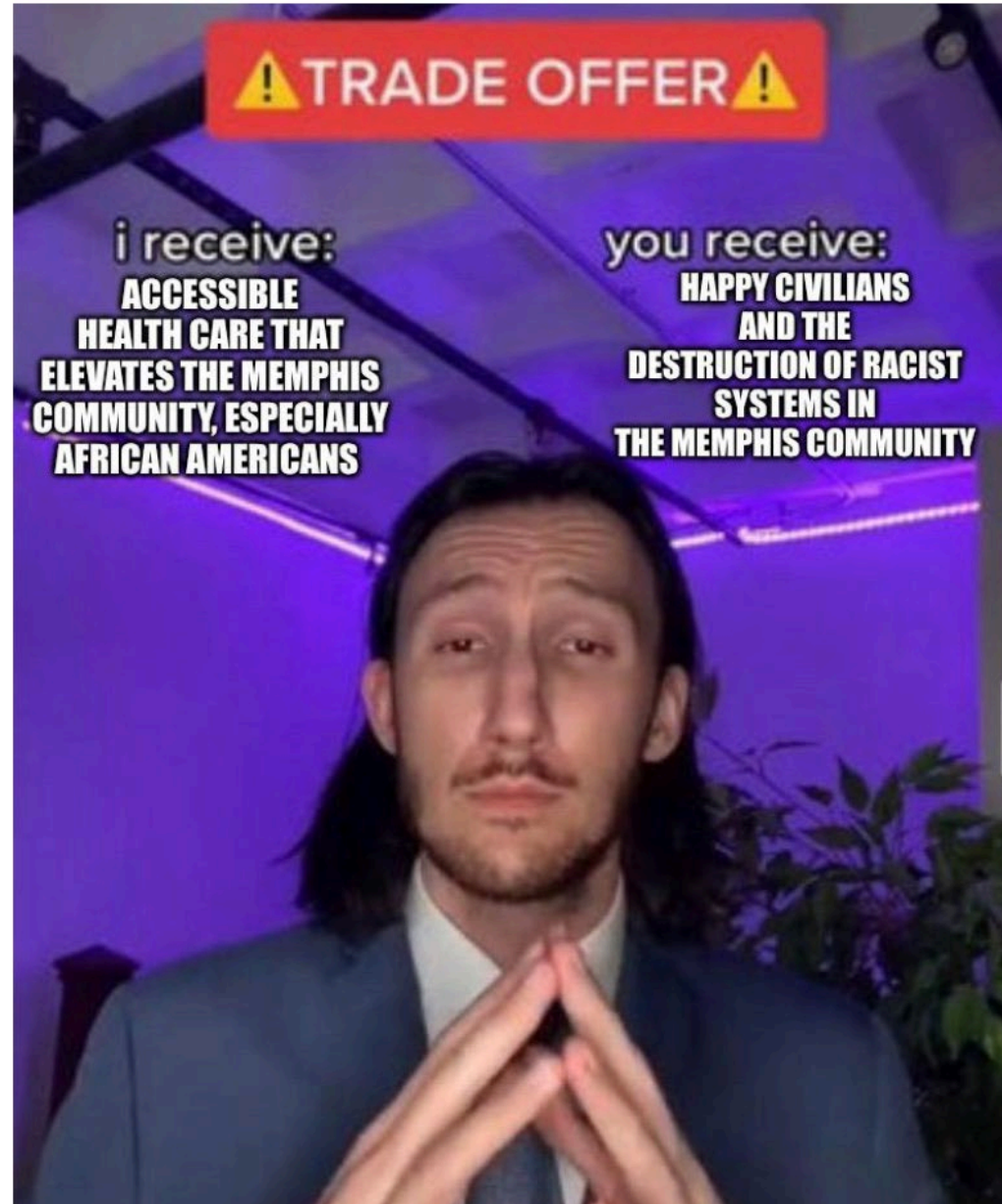
Figure 6. The leapfrogging strategy

"Sneaky" and subtle, requires a big payoff

Assignment Idea: ArguMEMEtation

- It asks them to consider tone, because they're switching from academic to funny/sassy
- It can sharpen their argument by forcing them to crystallize their argument
- Translate your research-based argument into a meme
- Write a reflection that explains your choices, what the meme captures, what the meme omits
- meme better: A Meme Generator for School or Work

- This one helped the student get to an arguable thesis
- Also helped to focus on conclusion (the happy civilians)





**SO BEALE STREET
REDEVELOPMENT PRESERVED
CULTURE?**

**BY TURNING IT INTO A TOURIST
PERFORMANCE?**

A Few Discussion Questions

- Which of these strategies, if any, resonate with you? Why?
- What specific challenges in your classroom could these strategies help address, if any?
- What tools and technologies do you currently have available to implement visualization?

Putting Strategies into Practice

- Individually, or in pairs, design a short assignment using a visualization strategy of your choice
- See references in final slides for other resources on these strategies

Share-out

Recommended Resources

Color Coding

- [Sneed and McBride, “Writing Handbook and Assignment Modules for Composition II” \(2023\) \(Open Educational Resource\)](#)
- [“Color Coding” \(YouTube, U North Carolina Writing Center\)](#)
- [Li, Ruth. “Visualizing Essay Elements: A Color-Coding Approach to Teaching First-year Writing” \(CUNY Manifold\)](#)
- [Andrzejewska, M., Stolińska, A., & Baran, W. \(2025\). The Effects of Colour Coding on Problem-Solving Strategies and Cognitive Engagement: Insights from Eye-Tracking Research. *Applied Sciences*, 15\(21\), 11503. <https://doi.org/10.3390/app152111503>](#)
- [Skulmowski, A. When color coding backfires: A guidance reversal effect when learning with realistic visualizations. *Educ Inf Technol* **27**, 4621–4636 \(2022\).](#)
- [Scribe, “Color Coding: A Simple Tool for More Effective Academic Writing” \(many links to research\)](#)

Recommended Resources

Maps and Graphs

- Moretti, Franco. *Graphs, Maps, Trees: Abstract Models for Literary History* (Verso, 2005)

Metacognition and Threshold Concepts

- ["Reflective and Metacognitive Writing" \(Carleton College\)](#)
- *Writing About Writing: A College Reader*, edited by Elizabeth Wardle and Doug Downs, 4th ed., Bedford/St. Martin's, 2023.

Visualizing Argumentation

- ["Reflective and Metacognitive Writing" \(Carleton College\)](#)
- [Marchetti, Allison, "Five Ways to Use Sketching in the Writing Workshop"](#)
- [Gaipa, Mark. "Breaking into the Conversation: How Students Can Acquire Authority for Their Writing." *Pedagogy*, vol. 4 no. 3, 2004, p. 419-437.](#)
- [meme better: A Meme Generator for School or Work](#)