Visual Thinking in the Classroom (2)
"Read for a Minute, Discuss for an Hour"

Ebony E.A. Coletu, Department of Rhetoric and Composition

Recent research shows that visual arguments understood in less than thirty seconds persuade more effectively than lengthy reports detailing evidence that refutes commonly accepted claims. What does this mean? We need to teach visual argument. This does not displace the need for research papers or encourage cut-and-paste graphics to substitute for critical thinking skills. Visual arguments can help question or undo assumptions, strip claims down to evidence and change the way we deal with the tendency to affirm existing views in the research process. Brendan Ryhan and Jason Riefer published a study last year in *Political Behavior* on self-affirmation and its effect on readers' assessment of news reports. Predictably, readers are more likely to accept news stories that line-up with personal opinion. But the same strategy can also be used to correct misperceptions by keeping the affirmative (rather than oppositional) stance, and delivering arguments that can be digested quickly with clearly presented data that refutes perceived facts.[1]

Given the concerns expressed in earlier Chalk Talks and public forums about how little students read, this may seem to affirm the very habits we want to undo in our courses. However, the backend documents that support visual arguments require extended research and careful assessment of purpose, context, and content in order to produce the graphic in the first place. And peers are more likely to engage and question data-inferences presented graphically. For instance, a playful map of the world called "Because Every Country is Good at Something," features nations that take first place in a variety of undesirable social trends.[2] Egypt is number one in convictions and the United States takes the gold for the number of serial killers. In the spring I presented this graphic to my Writing Revolution course as we embarked on a media analysis project. It quickly led to debates about method, data sources, and the history of "serial killer" as a category of violent crime. Through hyperlinks, we evaluated the spreadsheet supporting these claims, the database that collects statistics on nations, and the implications of such information as a frame for understanding other kinds of news stories.

But is this limited to media? Arguably, programs that analyze online content proliferate faster and with more updates than analyses of offline reports. Though increasingly we can find text analysis and visualization programs that handle uploaded documents from Word and PDF files, Survey Monkey data and spreadsheets.[3] The goal of such programs is to shift the scale of analysis for literary texts and develop theory from qualitative research while preserving the hermeneutic methods that differentiate humanistic disciplines from math and hard sciences.

However, we shouldn't limit ourselves to programs designed to code and visualize specific kinds of data. Why not encourage our students to develop new ways to translate lengthy research-based arguments into more condensed claims? In my Writing and Cognition class, students are challenged to convey an "Epiphany on a Page" in their final assignment. The project requires the writer/designer to give the reader key terms, critical arguments, historical developments, and implications in response to compelling questions about what forms of thinking are managed through the creation and transformation of symbols?

No one in the class is a graphic designer and we all have sympathy for the challenge, but repeatedly, with a white board and a pen, we've generated visual arguments that are compelling, comprehensible, and provocative for

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[1] Nyhan, Brendan and Jason Reifler. 2010. "When Corrections Fail: The Persistence of Political Misperceptions." Political Behavior 32(2):303-330.
[2] Informationisbeautiful.com hosts original and "best of" infographics with data links.
[3] For example: Atlas.TI, Nvivo, HYPEResearch, CATMA, Dedoose, and Google N-Grams.

discussion. How? We already do it. Taking a cue from student notes and typical white board use, I've noticed how arrows, lines, circles and capitalization reposition the meaning of keywords to condense class lectures and capture the volley of Q&A between peers. If an arrow is a verb, what kinds of causal arguments do we wind up with? Is it a transcription or a transformation when based on a pre-articulate sense that an important point has been made and merits jotting down? This might sound too simple and inconsistent, but it could be an opportunity. What if we go back to those notes and try to create a legend of symbols, then explain what notes actually say and where they might lead to misunderstanding?

What we say, think, and write is always open to critique, but visual arguments may help put us all on the same side, analyzing them together and discussing alternative explanations. Dialogue defines the purpose and the process of creation is a means to that end. This might mean final work is delivered earlier in the term to turn presentation season into discussion and revision season. We can try it, experiment with such assignments without waiting for mastery, and share our experiences to model what we hope our students will do.

A PERIODIC TABLE OF VISUALIZATION METHODS

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4 Like many online visualizations, this is an interactive graph, which expands into samples of the method. Martin Epp and Ralph Lengler. "Toward a Periodic Table of Visualization Methods for Management," *GVE 2007 Proceedings of the IASTED International Conference on Graphics and Visualization in Engineering* (2009): 83-88.

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4 http://www.visual-literacy.org/periodic_table/periodic_table.html#