

9-12th Grade: Various Subjects

Course Title: Your subject here.	Lesson Title: Everything You Know is WRONG!
Instructor: You.	Prerequisites for Assignment: Experience using trapiit a plus (see <u>Researcher Assignment</u> scaffolding)
Equipment/Resources Required: Access to computers/internet	Evaluation Method: Written assignment + paper; details vary depending on extensiveness desired.
Students will work: Individually	Total In-Class Time Required: 2-5 class periods depending on amount of scaffolding needed
Max. # of Students: 36	Total At-Home Time Required: 1 week (estimated)
Initial Preparation by: Ethan R. Siegel, Ph.D. Date: 08 / 22 / 2012	Final Revisions by: Date:
Approved by:	Date:

Performance Objectives

Students will accomplish the following:

- Create multiple news streams to deliver content on a highly polarized issue
- Identify points-of-view and agendas inherent in different sources and from different authors
- Identify and examine their own inherent bias
- Separate opinion from fact-based statements; examine those statements critically
- Write on the same topic multiple times, incorporating newly acquired information to bolster accuracy and correct prior errors
- Evaluate the reliability of sources on the topic of a particular issue
- Incorporate researched information with proper citations into their final essay
- Reach a conclusion as to which side of the issue they fall on, detail their level of confidence in that conclusion, and what it would take to change their minds

Curriculum Standards Met:

- Research / gather topic-specific information using applied modern technology
- Evaluate credibility of information obtained, perform fact-checking, and compare against their own preconceptions
- Write and re-write after extensive research, incorporating information to improve and evaluate their own conclusions

CCSSI Objectives Addressed:

- Reading: objectives 1, 5, 7 and 8
- Writing: objectives 1, 5, 6, 7, 8 and 10

Lesson Plan Outline

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Engagement / Setup

You've become good enough at what you do that people want to know what you think and why, and so you've been invited to submit a story to the world's best-selling annual compendium, **Everything You Know is WRONG!** This compendium takes stories from people who have strong opinions on a polarizing, hot issue of the times (gun control, fluoridation of public drinking water, vaccine safety, health effects of GMO food, fracking, anthropogenic global warming, etc.) and invites them to write what their opinions are about it, and why.

Of course, that's just the start! It's easy to have an opinion, but it's much more difficult to scrutinize and challenge it, and – if necessary – to revise your conclusion upon discovering new facts. (See scaffolding regarding confirmation bias, as well as the Wikipedia page* on the topic: http://en.wikipedia.org/wiki/Confirmation_bias.) Once you've written your initial opinions and reasons, it's now your job to put those thoughts under the microscope of investigation, and that means opening them to diligent, unrelenting research, fact-checking, and re-evaluation.

Everything You Know is WRONG! publishes all of its authors' initial opinions as well as their well-researched final papers, so that its readers can see what goes into critical thought and re-evaluation of strongly held opinions. You are challenged to uncover and even-handedly evaluate evidence from sources that both agree and disagree with your initial opinions, distinguish causation from correlation, and to write a conclusive paper that is aligned with the factual evidence surrounding an issue, doing your best to remove all internal personal biases.

Scaffolding:

After the initial writing / submission of the first essay, introduce the concept of confirmation bias. Confirmation bias is the fact that people, by default, do not critically or scientifically test their own opinions and hypotheses, nor try to falsify them. They simply try to *confirm* them.

It also means that people with established beliefs on an issue tend to favor information that agrees with their beliefs and find flaws with / discount information that contradicts it, as well as interpreting neutral information as supporting their beliefs and giving stronger weight to older information that they strongly recalled when forming or solidifying their beliefs. Have them consider the following quote.

“Smart people believe weird things because they are skilled at defending beliefs they arrived at for non-smart reasons.” –Michael Shermer

Instructor's Notes:

It is vital that students enter this lesson with a pre-existing understanding of the dangers of reporting untrue or counterfactual misinformation without sufficiently challenging or vetting their sources, as the “scaffolding” from Trapit's [Researcher Lesson Plan.docx](#) teaches.

Additionally, students must enter this lesson proficient in using Trapit to create traps/news streams on particular topics of interest. It is recommended including at least one prior exposure among students to curating/personalizing traps (such as the [Researcher Assignment.docx](#) or the [General Handout.docx](#) homework assignments) before they are ready to handle this assignment.

Make sure to modify and assign, either electronically or via paper format, the handout, [Confirmation Bias Handout.docx](#), before allowing students to get to work on their individual research papers. This includes *properly sourcing* the documents/articles they encounter in their research.

* – While Wikipedia is not *always* 100% accurate or reliable, the Wikipedia page on confirmation bias is more than adequate for an introduction to this topic.

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Scaffolding (continued):

Consider relating one (or more) of the following examples:

- In an experiment on the death penalty and crime deterrence, students read 2 (fictional) studies on murder rates and the death penalty in US States. Despite evidence presented, scrutiny of the methods, and evaluation of the papers, *all* students returned to their initial conclusions, setting higher standards-of-evidence for the claims that went against their initial beliefs.
- People were shown (factually) contradictory statements and an explanation that made the statements seem reasonable. They were then told that they originated from either a Democrat, a Republican, or a neutral party. They were far more likely to identify the statements as contradictory if and only if they came from the party they were opposed to.
- Believers and non-believers in ESP were shown descriptions of ESP experiments, with half of each group told that the experiments supported ESP and half told that they contradicted ESP. All groups recalled the information correctly *except* believers who were told the study contradicted ESP; they remembered significantly less information and some even mis-remembered the results as being supportive of ESP.

Instructional Walkthrough:

- Prompt students, individually, to write on a pre-selected (and ideally, a currently newsworthy) issue, stating and arguing their opinion for **Everything You Know is WRONG!**'s initial essay.
- After assignment is complete, engage in scaffolding exercise(s) on the topic of confirmation bias.
- If necessary, expose students to Trapit, as per the scaffolding instructions in [Researcher Lesson Plan.docx](#) or from the [Researcher Assignment.docx](#) or [General Handout.docx](#) homework assignments.
- Finally, give students the final essay / research assignment.

Research Assignment:

- Students will research their issue, citing factual evidence from sources (and evaluating source quality), using Trapit as a resource for gathering these sources. They will write a compelling essay evaluating all of the evidence gathered, reaching a conclusion and expressing both the level of confidence they have in it as well as what further evidence would change their minds.
- See the attached assignment – [Confirmation Bias Handout.docx](#) – for further details and grading criteria.

Instructor's Notes:

Suggested topics (by selected subject):

Health: Fluoridation, abortion rights, abstinence-only education, vaccine safety, GMO food

Science: CO2 and global warming, fracking and the environment, evolutionary origins for humans, the Big Bang origin of the Universe

History/Social Studies: Gun control, the death penalty, gay marriage, universal healthcare