# A Balanced Plateful:
## *The Pyramid of Evidence*

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## NUTRITION INFORMATION

The Pyramid of Evidence is a hands-on, active learning exercise which helps students develop a framework with which to evaluate source authority in an academic setting and within discovery tools. It is interactive, rooted in constructivist pedagogy, and has built-in assessment. The lesson is written for first year students and asks them to reflect on their high school research experience, but it can be adapted to students of any level.

## Learning Outcomes

Students will be able to:
- Differentiate between sources based on authorship: scholars, professionals, and users.
- Describe the role and significance of editing in the production of research material.
- Independently evaluate sources and rate their authority in a college context.

## NUMBER SERVED

Any (25 students per pyramid is the maximum served, but multiple pyramids can be created by a single class)

## COOKING TIME

Preparation time is 15 minutes. Lesson length is 45 minutes.

## DIETARY GUIDELINES

*Frame*: Authority is Constructed and Contextual

*Knowledge Practices:*
- Define different types of authority, such as subject expertise (e.g., scholarship), societal position (e.g., public office or title), or special experience (e.g., participating in a historic event).
- Use research tools and indicators of authority to determine the credibility of sources, understanding the elements that might temper this credibility.

*Disposition:*
Motivate themselves to find authoritative sources, recognizing that authority may be conferred or manifested in unexpected ways.

## INGREDIENTS & EQUIPMENT
- Post-it Notes
- Chalkboard or whiteboard, and appropriate writing implements
- Computer and connected projector (or individual student computers)
- Internet connection

## PREPARATION
- Draw one or more large pyramids or stepped pyramids for student use on a whiteboard, chalkboard, easel or wall and label it the "Pyramid of Evidence."
- Post-it notes, two for each student

## COOKING METHOD
1. Encourage the students to recall their previous research experiences with a think-pair-share exercise. Ask them to describe to a partner the last school research project they did, and how they found sources of information for that project.
2. After the students are warmed up, ask them to think about the sources they used in that past research project. Ask, for example, "What was in your bibliography or works cited page? Can you name two types of sources that you cited?"
3. Distribute two Post-it Notes to each student, and tell them to write one source that they used for research in the past assignment on each note.
4. The next steps use the students' notes to create a Pyramid of Evidence. Ask the students to think about how much **authority** the sources they wrote down have. For example, you might ask if the students have considered if the information provided by that source is reliable, credible, or trustworthy.

5. Indicating the board with a pyramid or stepped pyramid on it, invite the students to come to the board and place their notes wherever they think they belong on the pyramid, with the **most reliable, or authoritative**, at the top, and the **least authoritative** at the bottom

6. At this point you may have something that looks like an inverted pyramid . A couple of things are clear at this point; students are comfortable with the concept of authority, and they speak fluently of "bias" and "good sources."

7. It is also clear, however, that the high school understanding of authority is very different from a college-level understanding, because in most cases the students' initial pyramid has *Encyclopedia Britannica,* government website or the name of a database at the top. The librarian's challenge is to alter that understanding by adding a new layer, scholarly sources, to the top in a way that resonates with students.

8. Constructivist pedagogy encourages teachers to acknowledge student's current understanding. You can do this by asking students about their sources. For example, you could query them about any resources that you are unfamiliar with.

9. As a transition, explain that a college-level understanding of authority is going to add a new layer to the top of their pyramid. There will be few sources that meet the stringent criteria to make it to the top, that's why the pyramid's top is relatively tiny compared to its base.

10. Describe the college-level pyramid as having roughly three levels. The top of the pyramid, by far the smallest set of resources, has evidence that is created and vetted by scholar/experts. The second level represents evidence and sources written by professionals, e.g. journalists and other professional writers, and edited by professionals. The bottom layer, by far the largest set of sources, has evidence created by users which may or may not be edited (Figure 1).

11. Deploy analogies to improve understanding and recall of the three categories of evidence. Depending on the audience, a college food analogy may aid student comprehension. Items from the bottom of the pyramid are plentiful, inexpensive, but of questionable quality and nutritional value—*Ramen noodles 24/7!* The middle of the pyramid features items that are more selectively available, a little more expensive, and of somewhat better quality—*college dining hall meals!* The few items at the top of the pyramid are available in limited quantities, expensive and high quality—*farm to table restaurant that your family treats you to when they visit!* (Figure 2).

12. To test students' knowledge of the pyramid concept, ask analytical questions such as, "Where does Wikipedia belong on the pyramid?" You may ask the same question with respect to any of the students' Post-it Note sources.



**FIGURE 1.** College-level Pyramid

Expert created, expert vetted evidence

Professional writer/journalist created, professionally edited evidence

User created evidence, may or may not be edited



**FIGURE 2.** College Food Analogy

Available in limited quantities, expensive and high quality

More selectively available, somewhat more expensive, somewhat better quality

Plentiful, inexpensive or free, of questionable quality
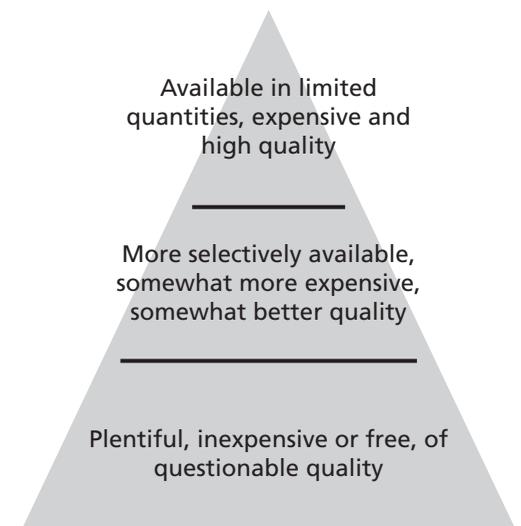
13. Before moving on to the discovery tool, emphasize that this pyramid is contextual; as described today, it is relevant to college and university projects, which is why it may differ from what students were taught in high school, and it will certainly differ from real world research like buying a car or a house. Ask if there are any further questions about the Pyramid of Evidence.

14. At this point students are ready to search for sources of evidence on their research topics in the discovery tool. When the class moves online, ask the students to do keyword searches on their own individual topics, and give them 10 minutes to explore a variety of searches and results on their own, with yourself and the course professor circulating around the room to lend a hand.

15. After a period of individual work, bring the class's attention back to the front of the classroom. To maximize student attention and engagement, ask students to volunteer a topic, and you perform a live, unrehearsed search in the discovery tool. Refine as necessary to get a set of results that includes a variety of source types.

16. In the discovery tool, the source type icons are very large and prominent—likely to be one of the first things a new user notices on the search results screen. The most frequent source type icons are "academic journal" and "periodical." Ask students the meaning of these terms and where each belongs on the Pyramid of Evidence.

17. As you look at the full text of sources in the discovery tool, note the characteristics discussed when working with the pyramid. If an author's credentials appear on the first page of an article, for example, ask the students why these appear so prominently, and where on the pyramid this article likely belongs based on that evidence. You may ask similar questions with respect to any common characteristic of scholarly and popular sources from the full text of a source, or from the source type icon in your library's discovery tool.

## ALLERGY WARNING

To distract students from the computers in front of them, I set up the Pyramid of Evidence board in the rear of the classroom, and conduct the first 15 minutes of the class from there. They pay better attention to the lesson without the distraction of an internet-connected computer in front of them! Having the students rise from their seats to place their Post-it Notes on the pyramid board also encourages active engagement in the lesson.

## CHEF'S NOTE

Whenever possible I prefer to do my classes unrehearsed, without canned search examples. Letting the students see my searches occasionally fail shows them that research is difficult and requires iteration, whereas a planned presentation in which everything flows perfectly makes the process look easy and may increase student frustration when they encounter difficulties in the research process. In many cases I solicit student research topics to turn into keyword searches in real time during the class. Students may pay better attention when topics of interest to them are used as examples, and seeing me search with zero results in front of a large group is a moment of comic relief for all of us!

## CLEAN UP

With this exercise I prefer real-time assessment via Socratic questioning of students in class. This allows me to know what concepts need further explanation immediately. In most cases I follow up with an e-mail to the class summarizing what we did, providing links to the resources that we used, and including a link to a brief survey, giving students the opportunity to ask questions and/or provide feedback about the class.