

## **Interrogating Sources**

### **Developing critical reading skills**

**Background:** Critical reading skills have been highlighted as a key area in which EEB faculty and student opinions differ on student writing abilities. This teaching tool has been developed in order to clarify expectations of students and help students develop this skill set to a high level of achievement.

#### **Activities Overview:**

**1. *How-to read a scientific paper***

This in-class, instructor-led activity walks students through the format of a scientific paper and highlights the key information present in each section of the paper. *After this activity students will be able to comfortably read and extract key information from scientific literature.*

**2. *Navigating a scientific paper***

This out-of-class individual assignment reinforces students' prior knowledge about the structure of a scientific paper. *After this activity students will be able to recognize and retrieve key information from scientific literature.*

**3. *Group discussion of papers***

Provided here are some examples to help different levels of students reach specific learning outcomes, but this activity can easily be reworked to help students achieve unique learning outcomes.

**a. *Discussion of a single paper (Introductory students)***

In this activity students compare their readings and interpretation of the same scientific paper in order to reach a consensus opinion. *After this activity students will be confident in their ability to retrieve key information from scientific literature and ready to continue this process independently.*

**b. *Discussion of a single paper (Writing focus)***

In this activity students reflect on the quality of writing in an example paper, how the writing influenced their ability to read and make sense of the paper, and their own strengths and weaknesses as writers. *After this activity students will be better prepared to plan and develop their independent writing projects.*

**c. *Discussion of papers on a similar topic (Writing focus)***

In this activity for mid-level students, each student reads a different paper on the same topic. In a group they discuss the strengths and weaknesses of the papers. The groups are given a description of a particular topic and instructed to choose which of the papers presented they would cite when writing a paper on this topic. *After*

*this activity students will be able to both critically read and evaluate the relative importance of papers to predetermined topics.*

**d. Discussion of papers on a similar topic (Evaluative focus)**

In this small group activity for advanced students, students each read a different paper on the same topic. In a group they discuss the strengths and weaknesses of the papers and decide which they would publish and why, as though they were the editorial team of a journal.

*After this activity students will be able to read, critically evaluate, and review the contents and merits of a scientific paper.*