

Bridging the Gap: Connecting the Scientific Literature with Learning and Teaching

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Workshop Outline

- Introduction
- Reflection #1
- Reflection #2
- Discussion
- Example Activities
- Activity
 - What do I have and what do I want?
- Activity
 - Creating a Game Plan
- Reporting/Discussion

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Why Is This So Important?

- Research and literature is not intuitive, but Google is
 - Teach them why it's important
 - Teach them how to do it
- Develop critical thinking skills
 - Prepare them for their future work and careers
- Our Learning Outcomes
 - Relate how you learned with how your students learn
 - Recognize current opportunities and constraints
 - Identify and/or create ways to incorporate the scientific literature into your biology curriculum

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Reflection #1

How did you learn about the scientific literature?

- Who taught you?
- What did you learn?
- When did you learn about it?
- Where did you learn about it?

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Reflection #2

How do your students learn about the scientific literature?

- Who teaches them?
- What do they learn?
- When do they learn about it?
- Where do they learn about it?

What Does This Tell Us?

- Compare your answers for Reflections #1 and #2
 - Are they similar? Or different?
 - Is there a pattern?
 - Do your answers shed light on your....
 - Expectations of students
 - Assumptions of students

What Do We Want For Our Students?

Based on your experience learning about the scientific literature, what do you want your students' experiences to be?

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Connecting Students with the Scientific Literature

■ General Biology

- Learning outcomes
 - Identify 2 types of scientific literature
 - Recognize 2 important databases in biology
- Learning activities
 - Search for primary research & review articles
 - Search Web of Science & Biosis
 - Read and present or summarize content

■ Upper Division Lecture

- Learning outcomes
 - Apply concepts presented in class to real scientific research
- Learning activities
 - Read and discuss research article(s) on topics introduced in class
 - Scientific Paper Summary – Search for and analyze scientific article

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Connecting Students with the Scientific Literature (cont'd)

- Seminar Class
 - Reading Group
 - Cited Reference Searching Activity
- Lab Experiment
 - Students write formal lab report
 - Students read scientific research papers related to lab topics
- Semester-long Research Project
 - Simulate research process of scientists
 - Literature consultation and review
- Other ideas?

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What Can You Do?

It depends on what you have and what you want to get.

- What classes do you teach?
 - Lower/upper division
 - Who are your students (e.g., digital natives, non-trads)?
- What type of class is it?
 - Lecture, lab, seminar, etc.
- What do you want students to experience and achieve?
 - Goals
 - Learning outcomes
- What resources do you have?
 - Library resources and support
 - Librarian
 - Journals

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Game Plan

What ideas do you have for introducing your students to the scientific literature and integrating it into your curriculum?

Considering your current situation and circumstances (with responses from the previous activity).....

- What activities can you do?
- What will you need to do this?
- How will you assess the learning? Can students achieve the learning outcomes you formulate?

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Sharing Ideas and Discussion

Questions or Comments?

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