



No Paper Necessary: Incorporating Research in Courses

(Part 1 of the HS/NS Faculty Future of Research Series)

Workshop Tips

Why Incorporate Research?

- **You're modeling professional behavior for students.** How will students address new and developing questions, problems, cases, and concerns in their field when they're on their own?
- **Evidence-based practice (systematic reviews) is at the core of health & natural science professions.** In order to understand the "how" and "why" of established guidelines and practices, students must learn the techniques to find the research and data upon which standard practices are based.
- **Research enhances critical thinking skills.** Students need to think critically and carefully when constructing research questions as well as when applying findings to specific cases, phenomena, or events in their field.
- **You're modeling good citizenship for your students.** (Are you unsure what to think about how Congress is handling Zika research funding? Rather than blindly trusting "regular" news sources, *how* should you ask that question and *where* should you seek information/evidence leading to an informed answer?)
- Research is integral to formulating and answering the "big" and "cutting edge" questions that author, Ken Bain, discusses in *What the Best College Professors Do*.

Dreading reading 30 research papers for each class?

Alternative Research Projects:

- **Focused annotated bibliographies**
 - When students list high-quality resources, explain why the resources are credible and what specific content they hold addressing the assigned topic (thesis or clinical question), the students demonstrate mastery of critical thinking, research skills and synthesis/application of information. As an added bonus, identify a specific citation style (e.g. APA) and you gain an opportunity to assess student's ability to follow direction and document appropriately!
- **Presentations & posters**
 - Not only are students learning course content, they also are learning how to *communicate* with peers and colleagues. Assignments model professional collaboration and educational continuing education opportunities in the field (CEs, conferences). It is **work** to get exactly the right information distilled onto a poster, PowerPoint slide, or 5-10 minute oral presentation!
- **Worksheets** (*guided instruction* combined with assigned reading/audio visuals)
 - Why not present leading questions (on "best practices" or "research trends") to your students and require short answer replies? Guided instruction combined with assigned readings/viewing (e.g. streaming videos) fosters student engagement and learning.

- **Incorporate research into your flipped classroom and/or as a homework assignment**
 - Require a “fast summary” or series of question/answers from outside student work to “ease into” each class. “identify new dental products/devices in the news” or “profile a current chemist who is doing work you admire”
- **“Show and tell”**—students admit that they will utilize resources when they see their instructors not only tell but also demonstrate/show how to use the resources.
 - Don’t *tell* a student to look up the contraindications of a specific drug during lecture or lab...using Micromedex, search the drug then point out the link for contraindications. Have students search on their devices! The more you model look-ups, the more they will do it on their own!
 - Don’t just mention that the Deepwater Horizon oil spill has had a lingering impact on the Gulf of Mexico ecology: pull up Science Direct to show research on life, sediments, and even biodegradation.

Timely Tips:

- Any assignment can be given as a group project teaching professional behaviors--how to collaborate/communicate/work together in a lab or clinical setting—as well as making grading more manageable.
- Creating and providing students with a rubric identifying the important concepts to be demonstrated in the assignment with point value for each assists instructors and students in assigning/understanding point distribution and final scores.

Structuring Your Research Assignments and Questions:

- Avoid assigning vague, “pick a topic” papers (stress, plagiarism, etc.)
- Customize your assignments:
 - Make it local
 - How does DuPage County handle wastewater?
 - Identify three local agencies, organizations or non-profits in DuPage County that support patients with this condition/disease. [instructor approves student-selected condition/disease]
 - Make it specific
 - Let’s look at bacterial problems in Lake Michigan.
 - Does likelihood of UTI increase with the duration of in-dwelling catheter use?
 - Scaffold your assignment (scaffolding a project helps students stay on task and makes grading easier)

Instead of a 1-shot paper, have students: 1. attend librarian-led research session, 2. submit annotated APA bibliography resources 1 week after lib. session, 3. submit final project