



INNOVATION ABSTRACTS

Published by the National Institute for Staff and Organizational Development (NISOD) • College of Education • The University of Texas at Austin

RETHINKING A SCIENTIFIC ASSIGNMENT

Early in my career as an eager young college instructor, I wanted to diversify the experience of learning human physiology. So I sent my students to the library to report on the latest scientific findings in our field of study. Since I perceived this to be a conventional collegiate activity, I thought very little of discussing specific parameters or expectations and merely emphasized the due date of the assignment.

The resulting papers not only represented the expected diversity of composition quality, but lacked conformity in format and content style. The grading process was difficult, but I diligently undertook it to make constructive comments on ways to improve student writing. I concluded the assignment was too time-consuming on my part and promptly began considering alternatives.

However, upon returning the research papers, I was dumbstruck as one student announced that my assignment forced him to break his record of never having been in the campus library. And yet another student, hands on her hips, loudly proclaimed: "You can't grade-me-down for 'incorrect spelling' and 'poor sentence structure'; scientists DON'T DO English!" Hence, my scientific journal abstract assignment was born, or reborn, in earnest.

Communication is the key! I have found the students need to be given clear guidance. And although some students may feel constrained by the rigid parameters of this assignment, many more welcome specific directions.

- Collect and read three research articles that emphasize the topic of human physiology from three different scientific journals available from the library from the following list:

The American Journal of Sports Medicine
Archives of Physical Medicine and Rehabilitation
Journal of Orthopedic and Sports Physical Therapy
The Lancet

The New England Journal of Medicine
Science

- Only select journal issues published since the month of (month the last abstracts were due).
- Please allow the instructor the opportunity to approve your article selections.
- Write your abstract as a comprehensive, objective summary of the scientific study; including who did the study, the purpose of the study, the method of the study, details about the subject population, statistical results, and the researcher's conclusions.
- The abstract should be written in the past tense using the third person (don't use "I" or make references to yourself or your beliefs).
- Quotations should be limited and even avoided.
- Use careful attention to keep mechanical errors (spelling, grammatical, and punctuation errors) to a minimum as they will be considered in the overall grade in addition to the actual content of the abstract.
- An abstract will not be accepted if any portion of the content is plagiarized.
- Each heading must include the student's full name, course title, and the journal referenced in APA style.
- Each abstract must be stapled to a photocopy of the entire original article.
- Each abstract must be presented separately, each on an 8.5" x 11" sheet of paper.
- Each abstract's length is limited to one side of one page.
- Each abstract must be typed. (Use of the computer is encouraged.)
- Please do not present the assignment in a folder or binder.
- The entire assignment is due no later than (2 weeks before midterm).

The Rationale

By utilizing current scientific journals, I am able to expose my students to the most current research that has not yet found its way into the textbooks or that, in a few rare cases, has actually nullified an accepted tenant of human physiology. More often than not, I hope the assignment simply will begin to demystify the scientific



process for students and allow them to see how scientific research rarely ever proves anything beyond a shadow of a doubt.

Since professional journals exist for most every field imaginable, I would presume this assignment could be modified to fit most any field of study. With some minor modification, it could be tailored for either the secondary level or the advanced pre-professional student.

I am careful to specify the titles and publication dates of the scientific journals that may be used for the assignment. This allows me the realistic opportunity to read ahead and be prepared for the students' interpretations. Then by limiting the issues to those that have been published since the last scientific abstract assignment was due, I can preclude the temptation of a student submitting a graded assignment from a previous semester.

I encourage students to bring photocopies of their selected articles to my office for approval. Primarily, I see this as an opportunity to get better acquainted with my students. I can then access each individual's understanding of the assignment and ensure each is getting off on the right foot by having selected articles that fit the assignment parameters. Additionally, the photocopy of the article that is later submitted with the scientific journal abstract allows me to search for and prove instances of plagiarism in a judicious manner. Conversely, on occasion the photocopy has actually exonerated a student I suspected of plagiarizing, but could not find evidence to substantiate my claim.

Most college students have had more experience writing personal narratives, comparison/contrast, argumentative, and essay style papers than they have writing technical objective summaries. Hence, this assignment offers a valid venue outside of the traditional English classroom to develop this writing technique. And although I do not profess to be an English instructor or even attempt to teach the nuances of the field, I do evaluate the use of proper spelling, grammar, and punctuation!

I ask my students to document their references using APA style, principally for the sake of requiring them to step out of their established MLA style high school comfort zone and to follow the guidelines of yet another widely accepted method of reference documentation.

The stringent format requirements compel the student to adhere to brevity and conformity when writing their scientific journal abstract. Most would agree that the task of writing succinctly often requires more thought and organization than simply allowing the pen to flow. The issue of format conformity allows grading to be a bit more of a uniform process. The due date of the assignment is generally two weeks before

midterm, thus allowing me plenty of time to grade and include them on the midterm progress report.

After the abstracts have been graded and returned, I ask each student to give an informal 3-5 minute oral presentation about one of their abstracts. Initially, this was an opportunity for public speaking outside of a traditional speech class, but it has evolved into a type of journal club group activity. Sometimes, the students have criticized the design of a study and questioned the conclusions of the researchers. Many thought-provoking class discussions and even a few impassioned personal stands have ensued. Empowered students who possess the ability to think critically are a positive yet immeasurable outcome of this assignment as well.

Each year the editor of our campus publication, *The Colby Community College Collection*, selects three or four high-quality scientific journal abstracts that my students have written and I have submitted for the "Writing Across the Curriculum" section. Consequently, the assignment affords students the opportunity and honor of being published.

The scientific journal abstract assignment has become a work-in-progress for me. Generally, I find myself tweaking the rubric here and there to increase the clarity of the assignment, enhance the opportunity for learning, or prevent plagiarism and other types of academic dishonesty. Overall, it represents my continuing effort to incorporate a multitude of disciplines in the classroom and my firm belief that true learning is a synthesis of our total educational experience.

As we find ourselves inside the threshold of a new millennium with the information highway electronically whisking us all along, I have found myself clinging ever more tightly to the library. Throughout history, scholars from all disciplines have found great academic inspiration and solace while working amid book-lined nooks of the library and breathing its vaguely musty aromas. As instructors we owe it to today's young scholars not only to guide them through the Internet's maze of wonders but reintroduce them to the library and the art of integrating academic disciplines into a cohesive educational experience.

Tricia A. Reichert, *Instructor, Human Anatomy and Physiology*

For further information, contact the author at Colby Community College, 1255 South Range, Colby, Kansas 67701. e-mail: tricia@colby.cc.ks.us