TIME TO WRITE

THE NEWSLETTER OF THE L&S PROGRAM IN WRITING ACROSS THE CURRICULUM

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USING SHORT WRITING ASSIGNMENTS TO HELP NON-MAJORS DEVELOP SCIENTIFIC REASONING AND BECOME ENGAGED CITIZENS

Beth Godbee, Writing Across the Curriculum

E ven in a large introductory course for non-majors, learning can involve hands-on science experiments and disciplinary writing in science.

As I interviewed Maya Hayslett about the successful and creative ways that she and her colleagues use writing in Plant Pathology 123, I was struck by her attention to learning goals, particularly helping students to think scientifically and to become more critical and engaged citizens about scientific issues.

Many of us want students to come away from our courses with disciplinary understanding—thinking like historians or sociologists or biologists. We hope that students interpret reports in the news or enter voting booths informed by our disciplines. But how specifically do we help students develop critical perspectives on our subjects?

The Course Context and Major Assignments

Hayslett and her colleagues in Plant Pathology 123, a large introductory course cross-listed as Botany 123 and taken primarily by non-science majors, ask students to do library research and their own experiments, which build over the semester to a final oral presentation and creative paper—all to engage non-majors in scientific reasoning.

Like many introductory science courses, Plant Pathology 123 includes both lab and lecture components, and within this design students are expected to gain experience with different genres of science writing. Students locate and review published articles; report on their lab experiments; conduct original research on



Maya Hayslett Plant Pathology

"pet microbes"; and connect their research findings with hot-topic public issues, such as global warming, genetically-modified foods, and cloning.

Since students come to the course from a range of majors and undergraduate years, Hayslett and her colleagues say the course must help students understand scientific reasoning not for their future science

careers, but for their lives as citizens consuming science news and recommending public policy decisions.

To help students think like scientists, Hayslett and her colleagues ask students to complete a series of four or five short lab reports, which require students to leverage lots of thinking into a short piece of writing, while at the same time, make grading more manageable for the course instructors.

The Value of Short Lab Reports

A focus of writing in Plant Pathology 123 is the short lab report—1-2-page condensed versions of traditionally longer reports. Hayslett and her colleagues have adapted this sequence of assignments from *Biology Brought to Life: A Guidebook to Teaching Students to Think Like Scientists* by Jo Handelsman, Barbara Houser, and Helaine Kriegel (McGraw-Hill, 1997).

These short lab reports are structured much like publishable research papers with titles, hypotheses, methods, results, and conclusions. They differ in that students do not include outside research or background in their

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SHORT ASSIGNMENTS FOR NON-MAJORS

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experiments, and the methods section is also shorter with only a brief discussion of controls and treatments.

For each lab, students develop hypotheses and then design and conduct experiments. Because these reports are *short*, students cannot elaborate on their experimental designs, but instead focus on their hypotheses and conclusions. Students not only present their data, but also explain their results and draw conclusions that extend beyond the experiment to address course topics or raise questions about public science issues. These short writing assignments, Hayslett adds, help instructors assess what students have learned about key concepts in the course.

Guiding Students' Writing and Learning

While non-science majors often struggle with the first of these short lab reports, students also improve as they complete four or five in the course of a semester. Hayslett and her colleagues support students in a number of ways: sharing evaluation criteria, using some lab time to identify what information needs to be included, and meeting with students in one-on-one conferences.

After students have completed the first lab report, instructors discuss common mistakes and share successful examples. Students are given the opportunity to revise their first lab reports, which especially helps students who are struggling with how to write hypotheses, how to explain controls, or how to extend their conclusions beyond the experiment.

Hayslett notes that students improve significantly throughout the semester and succeed in organizing their results, presenting data, and writing creative titles. She appreciates the "sometimes unexpected and insightful answers" students provide in their conclusions and sees that these non-science majors are connecting the course content with broader issues in agriculture and science news.

While it's true that writing assignments are timeconsuming for students and instructors, Hayslett has found that the short lab reports pay off with improved student learning and as an effective assessment tool.

To learn more about Plant Pathology 123, visit the course website at www.plantpath.wisc.edu/pp123/, or email Maya Hayslett at <mch@plantpath.wisc.edu>.

For further discussion of the short lab report assignment or to see examples, you may want to review a copy of *Biology Brought to Life*. For more on this text, visit www.plantpath.wisc.edu/fac/joh/BBTL.htm.

THE FIFTY-WORD ASSIGNMENT



Charles L. Cohen, History

This article is reprinted by popular demand from the fall 2003 issue of *Time to Write*.

Seeking the holy grail of an exercise that teaches writing, advances critical skills, adds only a modicum of time to students' weekly workload, and requires even less time per student to evaluate?

The closest thing I have found is the minor assignment, a fifty-

word sentence covering the week's reading. Employed frequently—I schedule from perhaps four in a typical undergraduate seminar to as many as nine in an upperdivision lecture—minor assignments are the most effective means I know for teaching students the quintessential communicative skill: *Get to the Point!*

Rationale

A single-sentence exercise with a finite word limit counters students' proclivity for aerating their prose with superfluities. Given at most fifty words, they must distill their arguments' fundamentals and phrase them concisely, for, as my syllabus warns, the fifty-first word and its successors face a terrible fate. (I have been known to cut out extraneous verbiage and turn the tattered remnant into a paper airplane—a practice proved sound pedagogically if not aerodynamically.)

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Fifty words might appear too many—the contests cereal companies run, after all, ask for only twenty five—but I prefer giving students sufficient rope. For one thing, the fifty-word limit allows them to cope with the assignment, which often requires complicated responses. For another, it weans them from dependency on simple declarative sentences and challenges them to experiment with multiple clauses. Some can handle compound-complex sentences, but most require—and appreciate—tutelage in them.

Nor are fifty words too few; no student has ever complained about an inability to pare down the verbiage.

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SUPPLEMENTAL TEXTS ABOUT WRITING IN YOUR DISCIPLINE

Beth Godbee, Writing Across the Curriculum

Do your students struggle to understand common writing genres and expectations in your discipline?

If so, you might consider A Short Guide to Writing about . . ., a series of supplemental texts published by Pearson-Longman and available in paperback. Pearson's series is one of the largest and best known of a growing number of texts on disciplinary writing.

Why Use a Supplemental Text?

These approachable guides discuss the process of writing, explain writing conventions, and identify ways of thinking and writing specific to some major academic disciplines. In addition to answering frequently asked questions, these books provide sample student papers and published articles to illustrate research and writing in such fields as biology, history, art, psychology, and chemistry.

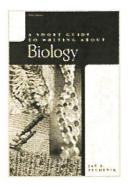
Published for almost 30 years, these texts have been widely used, and many are now in their fifth or later editions. Reviews of these texts have appeared in various disciplinary journals; a reviewer in *Art*, *Design*, *and Communication*, for example, praises the art guide for its "sensible and practical advice on researching, notemaking, referencing, and writing styles."

Although it's unlikely that advice offered in these supplemental texts will line up perfectly with your course assignments and expectations, these guides do offer disciplinary insights into writing that students, especially majors, can carry with them from semester to semester. The series is generally pitched toward advanced undergraduates and even graduate students interested in explicit writing instruction, as authors focus on discipline-specific genres and preparing manuscripts for publication, in addition to more introductory information about the writing process.

If you are interested, contact your department's Pearson representative to ask for desk copies. In addition to reading the brief reviews below, you may want to access a complete listing of texts in the series on Pearson's website: http://www.pearsonhighered.com/educator/academic/product/.

If you know and like other texts about writing in your discipline, we'd appreciate hearing about them. Please email Beth Godbee at
bethgodbee@gmail.com>. We welcome your suggestions!

What Are Some of the Short Guides?



A Short Guide to Writing about Biology by Jan A. Pechenik (6th ed., 2007)

After posing and answering the question "What do biologists write about and why?" this book describes and provides samples of common genres in biology, including summaries, critiques, reviews, laboratory and research reports, research proposals, poster presentations, oral presentations, letters of

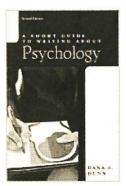
application, essay exams, and science journalism. Pechenik also offers general advice about reading in biology, note-taking, using technology, engaging in peer review, revising, citing sources, and listing references.



A Short Guide to Writing about Music by Jonathan D. Bellman (2nd ed., 2007)

A Short Guide to Writing about Music focuses on music analysis and research in addition to descriptive writing for biographical statements, abstracts, and press releases. Drawing a parallel between writing skills and musical skills, Bellman invites students to practice reaction papers, concert reviews, and other

writing genres as they would rehearse for concerts and study musical performances. This guide also discusses evaluating sources, choosing topics of research, avoiding "stylistic excess," and engaging in the writing process—from outline to final draft.



A Short Guide to Writing about Psychology by Dana S. Dunn (2nd ed., 2008)

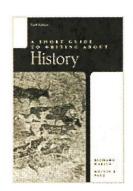
Dunn highlights the process of writing in psychology—from brain-storming and drafting to submitting work for publication or presenting results in symposia or through poster sessions. Special attention is paid to APA style, including separating content into sections

with headings, citing references in APA style, displaying data in tables and figures, and formatting the paper. This guide includes exercises for each section, so students can practice searching for and reading relevant literature, getting started on writing, writing APA-style papers, writing up results, and creating reference lists.

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SUPPLEMENTAL TEXTS ABOUT WRITING IN YOUR DISCIPLINE

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A Short Guide to Writing about History by Richard Marius and Melvin E. Page (6th ed., 2007)

This supplemental guide focuses on the methods historians use in researching and writing about the past. While Marius and Page provide practical advice about writing conventions, documentation, note-taking, and drafting, they also engage readers in larger conversations about the connection between writing and thinking, the importance of questioning sources and recogniz-

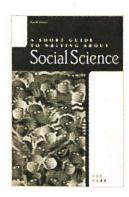
ing historical fallacies, and the changing role of revision when writing in an electronic age. This guide stresses writing based on source materials as well as the principle of storytelling—answering the questions where, when, what, why, and who—for writing history essays.



A Short Guide to Writing about Film by Timothy L. Corrigan (6th ed., 2007)

A Short Guide to Writing about Film introduces students to film terms and topics for analysis in addition to common sources for research, distinguishing primary sources (e.g., videos and scripts) from secondary ones. This book has a strong emphasis on conducting research as part of interpreting and analyzing film. Corrigan suggests six approaches to writing about film: film history, national

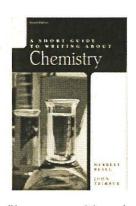
cinemas, genres, auteurs, kinds of formalism, and ideology. This guide includes both published and student sample essays as well as a glossary of film terms.



A Short Guide to Writing about Social Science by Lee Cuba (4th ed., 2002)

In A Short Guide to Writing about Social Science, sociologist Lee Cuba seeks to fill what he sees as a critical gap in social science courses: helping students understand what happens between collecting data and publishing research. To fill this gap, Cuba provides information about the practice and process of writing, library research, manuscript forms, and goals for revision. He discusses common

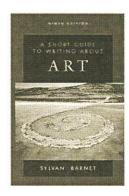
genres of writing in the social sciences, including summaries and reviews of literature, papers based on original research, oral presentations, and written examinations. And Cuba provides not only sample papers, but also sample outlines, source notes, fieldnotes, and reference lists.



A Short Guide to Writing about Chemistry by Herbert Beall and John Trimbur (2nd ed., 2001)

Beall and Trimbur argue for the importance of writing in chemistry by asking the questions: "what do chemists read and write about?" and

"how can writing about chemistry help you become a better writer?" In addition to explaining and including samples of laboratory reports, scientific articles, literature reviews, and research proposals, A Short Guide to Writing about Chemistry discusses writing to inform and persuade the public as well as writing with scientific responsibility. This guide engages with complex discussions of scientific honesty and the competitive world of science, while it also offers practical advice about writing-related activities, such as reading textbooks, using lecture notes, and studying for exams. Beall and Trimbur show how writing is essential for interpreting, sharing, and refining ideas in chemistry.



A Short Guide to Writing about Art by Sylvan Barnet (9th ed., 2008)

In addition to discussing common genres in the arts, including the research paper, review of an exhibition, and entry in an exhibition catalog, Barnet classifies art history papers into five

types: formal analysis, sociological essay, biographic essay, iconography, and iconology. This short guide shows how each type of paper answers common questions about the arts, such as who creates meaning—the artist or viewer. Barnett also presents guidelines on style, checklists to review drafts, and sample critical essays, as well as discusses the benefits and potential drawbacks of choosing either the *Chicago Manual of Style* or the *Art Bulletin Style*.

THE FIFTY-WORD ASSIGNMENT

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organization of paragraphs

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Had Goldilocks stumbled into my section instead of the Three Bears' den, she would have found the word limit "just right."

Sample Assignment

Consider, for example, the assignment that I recently gave students in History/Religious Studies 451, entitled "Constructing a Hypothesis": "Using the maps in the front of the packet, compare the distribution of churches within Anglo-America east of the Mississippi River in 1750 with the distribution in 1850 and, in one sentence not exceeding fifty words (need I say more?), hypothesize the reasons for the difference."

To complete the exercise, students must examine a series of maps, aggregate data presented graphically, convert it into written form, analyze that data, and develop a hypothesis to explain patterns they may have found. They must attend carefully to the material (not the least of the minor assignment's benefits is its capacity to monitor students' preparation), read the maps against each other, and offer a succinct but accurate conclusion, thereby rehearsing several critical skills simultaneously.

The quality of the responses varied, as one might expect, but the best submission hit the mark exactly, intellectually and, at fifty words, quantitatively:

"The maps show a relative decline in Anglican and Congregational Churches in relation to the growth of other churches between 1750 and 1850, which reflects the shift towards the disestablishment of state churches and the demand for a constitutional guaranty of religious freedom that occurred during the American Revolutionary Settlement."

Even more impressive, English is not the writer's native language.

Benefits and Limitations

Fifty-word sentences cannot help improve the organization of paragraphs and compositions, but that is why God invented essays and term papers. Meanwhile, minor assignments' brevity conceals their degree of difficulty; they require far more intellectual effort than may first appear. At the same time, because I comment on the sentences as profusely as I would a full-scale paper (at far less cost in time--another benefit, one that makes minor exercises effective tools for writing instruction in

even large classes like History 101) but do not grade the exercises individually (although failure to complete them lowers one's class participation score), students receive my attention without having to "perform" for an evaluation. They may mess up without cost, for the value of minor assignments lies ultimately not in completing any single task but in repeating them, by which students habituate themselves to really looking at what they write.

And they do. I explain the philosophy of minor assignments during the first discussion section, and in many subsequent sections, I devote a few minutes to them. That I take the assignments seriously means that students do so too, and they quickly grasp the exercises'

multiple intents. "They change the way you read," one student said recently, with others chiming in that they "focus" the reading and help one grasp the "big picture" rather than drowning in the details. They influence how students approach larger projects; the concentration put into the sentences has helped at least one student craft his essays so they "get more to the point." Finally, they keep students on their toes. You can fake oneor two-page papers on reading assignments, a student confided in section, because you can read a couple of pages and

expand on them, but trying to compress one or more readings into fifty words means that "you can't make it up" and, in the process, "eliminates [male bovine feces]."

feces]."

Additional Resources

For a good example of a student response to the 50-word assignment, see

http://history.wisc.edu/cohen/50-word_example.pdf.

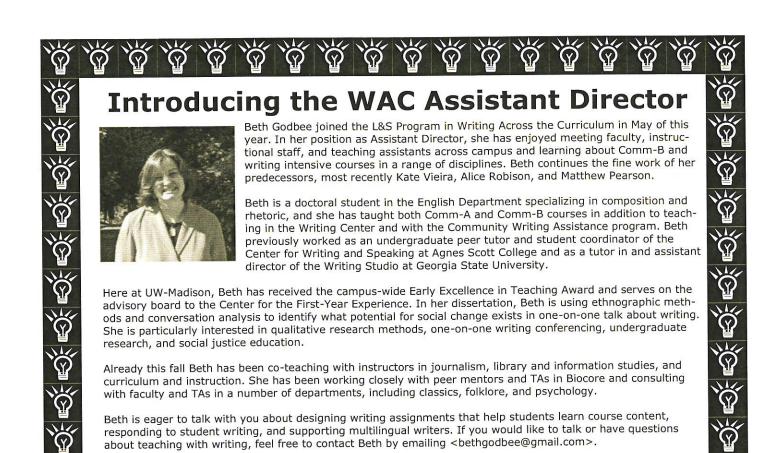
For more examples of Professor Cohen's minor assignments, see his syllabi at http://history.wisc.edu/cohen/.

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