

Teaching Writing Across Disciplines

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- “The ideas that I remember, the ideas that I can really grasp, are the ones I have written about. No matter how many lecture notes I have taken, no matter how many lines I have highlighted in my textbooks... The process of writing fixes a text in my mind and makes it more than a series of things I have read.”
- “When you are not writing papers in a course, you take more of a tourist’s view of a subject because you don’t have to think in depth about any of the material.”
- “If I hadn’t written, I would have felt as if I was just being fed a lot of information.”
- “Writing adds depth. If I hadn’t written, some of the depth of this first year would have been missing. I showed myself to be a credible thinker.”
- “Once you write a paper, you begin to see so much more; and the more you see, the more interesting the course becomes.”

From Nancy Sommers and Laura Saltz, “The Novice as Expert: Writing the Freshman Year,” *College Composition and Communication*, 56 (1), 2004, pp. 124-149.

Low-Stakes Writing Exercises

1. Free-writing

During a set amount of time, each student writes non-stop about a given topic. Without worrying about the mechanics of writing, they write anything that comes to mind to explore their thoughts, preconceptions, and questions about that topic.

2. Minute paper

At the end of class or after a major topic of discussion, ask students to spend one minute answering a defined question. Sample prompts include: What were the clearest and muddiest points of lecture today? What example most clearly explains the topic/text/event we studied today? What was the central purpose of class today?

3. Templates

Practice developing ideas by filling in sentence- or paragraph-length templates. The use of templates promotes disciplinary thinking and helps students to overcome the anxiety of beginning the writing process.

4. Cubing

Ask students to write a paragraph about the topic from each of six different sides (like the sides of a cube): describe it, compare it, associate it with something you know, analyze it, apply it to a concrete situation, and argue for or against it. Alternatively, you can divide the work among different groups to report back to the whole class.

5. Define terms

Ask students to write definitions of key terms. Give students time to share their work with partners or the whole class to check for understanding and allow students to refine their definitions.

6. Write an abstract

Divide students into small groups to summarize the major point(s) of the day's reading in a 50-word abstract that uses proper grammar and sentence structure. The word limit requires students to argue for which points they thought were most central and develop a pithy explanation of the material.

7. Chunking

Chunk bigger writing assignments into smaller pieces to make the assignment manageable and allow for students to get feedback while it is most useful. Tackle a singular piece of an assignment such as the methods paragraph of a scientific paper or an introductory paragraph of an essay.

Developed from Dirrigl, Frank J. and Mark Noe, "The Student Writing Toolkit: Enhancing Undergraduate Teaching of Scientific Writing in the Biological Sciences." *Journal of Biological Education* 48 (3), 2014, pp. 163-171; "In-Class Writing Exercises." *The Writing Center at UNC-Chapel Hill*, <http://writingcenter.unc.edu/faculty-resources/tips-on-teaching-writing/in-class-writing-exercises/>.

Nancy Michael's STEM Translation Paper Assignment

All students will come to each journal club with a draft of their Translation Paper. Having a prepared draft ensures that 1) students have read and thought about (at least a little) the content of the journal club article and 2) are prepared to participate in the Peer-Review of the Translation Papers during the second half of the journal club days.

Your Translation Paper will be in the format of a New Yorker style press release (i.e. brief essay ~500 words) that will expound on your interpretations and understandings of the content. These essays will link the outcomes, interpretations and conclusions of the primary literature to broader developmental processes and timeframes discussed in class. You will then be further challenged to identify the broader societal concern that motivates the work, and translate the main points of the article to someone outside the field (roommate, grandparent, etc.).

Each essay will follow the general format outlined below (without the section headings of course):

The Hook: how do you get your reader interested?

The Problem: states the thesis or overall goal of research – what question were the scientists trying to answer

The Research & Results: what did the researchers do? what did the researchers find? (in brief) This is where you have to be really careful about what you say and don't say, because it's really easy to lose someone here.

Broader impact/why do we care: linking it all together. This section should be directly aligned with how you introduced the topic in the beginning during your Hook, and should not only 1) answer the outstanding question but more importantly 2) relate the work to something of relevance in everyone's life and demonstrate how this work solves a problem and 3) a small change they the reader can make to implement the findings and improve their brain.

Easy, right? Well, if last semester was any indication, it turns out it's not so easy. So if your first few papers come back and you don't have the greatest outcome – it's OK!!!! You're here to learn! Most of you have not done this type of writing before and although it seems like it would be 'easier' than science writing, it actually takes A LOT more thought and synthesis to do this kind of writing well. You have to understand the intricacies of the science, as well as the baseline of your target audience; then scaffold the science on top of some commonly assumed prerequisite knowledge in the general public to build your readers understanding and bring them along with you for the ride!

Neurobiologically speaking, actual learning takes practice and effort (after all, you're building new synaptic connections!), so within the course design there are many opportunities to practice and strengthen your skills. To improve your writing skills over the semester, all essays follow the same format, are scored using the same general criteria (see attached Rubric) and critical feedback will be provided following each assignment with guidance to improve future writing assignments. These assignments are explicitly designed to provide you with practice translating the language of complex cellular processes into every day vernacular and build your skills for your capstone project.

Developmental Neuroscience Translational Paper RUBRIC

Levels	Advanced (5pts)	Intermediate (3pts)	Developing (1pt)	Totals
Hook	In your five minutes you have before your next class, this first sentence or two makes you want to read the whole article!	After reading the first sentence or two, you think the article might be interesting, but checking your Snapchat feed wins.	There is no chance you'd read this, unless it is assigned for class.	
The problem - thesis	1) Logically related to the Hook 2) Identifies the problem and need for the research 3) Sets-up reader expectations for the science that follows.	Missing one of the required components	Missing two or more of the required components	
Research & Results: Clear translation of scientific principles to lay audience	The science is boiled down to its essence, what is 'need to know' for the reader to understand. AND Field-specific terminology is paraphrased in an accessible manner for someone with no scientific background.	Lots of superfluous or non-essential information that can ultimately confuse the audience or detract from the main goals of the research. OR Cellular processes and field-specific terminology are confusing and "just out of reach" for someone with no scientific background	Lots of superfluous or non-essential information that can ultimately confuse the audience or detract from the main goals of the research. AND Cellular processes and field-specific terminology are inaccessible for someone with no scientific background	
Broader impact/why do we care: Clear-cut links to broader impact/societal concern	Logically developed relationship(s) between findings of primary literature and the impact to individual development/potential societal impact AND Written in a way that motivates the reader to consider new information	Few relationship(s) between cellular processes and individual development are unclear. Logical links to societal impact are lacking. OR Writing does not motivate the reader to consider new information	Illogical/no clear relationship(s) between cellular processes and individual development. No identification of possible societal concern. AND Writing does not motivate the reader to consider new information	
Organization & Sentence Fluency	Writing follows a logical order, builds on previous arguments/data. AND Writing has easy flow, rhythm, and cadence. Sentences are well built, with clearly identified subjects, attention to topic and stress positions, parallel structure, etc. No spelling errors.	Few components are out of order/described in an alternative experimental order OR Occasional subject confusion, subject-verb disagreement, large subject-verb separation, uncertain topic and/or stress point. Few spelling errors.	Many components are out of order or have no clear logic to their structure AND Frequent subject confusion, subject-verb disagreement, large subject-verb separation, uncertain topic and/or stress point. Many spelling errors.	
Total				

Instructions for Audio-Narrative Essays

Created and Revised by Instructor Angel Daniel Matos, University of Notre Dame

During the course of the semester, we have discussed how personal experiences have the power to concretize and illustrate abstract ideas. Furthermore, we are now aware of the fact that personal experiences and opinions have immense rhetorical influence when employed thoughtfully and effectively in our prose. Now, it is time to focus your energy on depicting your personal thoughts and subjectivities in a way that can move, inspire, and/or teach something meaningful to your audience.

As we discussed in class, our lives *can* be approached as a text. Our experiences are imbued with ideologies, expectations, outcomes, and cultural stances that offer the same food for thought that any well-written text can. The point of the narrative essay is to describe a *specific* event/experience that occurred in your life in order to uncover the aforementioned imbued elements, and to reflect on how this experience can relate to the experiences and ideologies of your audience. It is expected that your efforts to effectively describe and reflect will lead your audience to recognize and assess your experience in relation to their own lives, and in turn, push them to discover something new and original about life, culture, society, and/or themselves. But even more importantly, the narrative essay ultimately invokes the essence of who you are and how you approach the world around you.

With this in mind, you will write a 3-5 page (double space) narrative essay that describes and reflects on a specific event or life experience. This essay will become a *script* for an essay in audio format, meaning that you will use computer software to vocally record and edit your essay. This means that your essay must be written to be *heard* rather than read. You will turn-in a 5-8 minute **mp3** or **wmv** file of your recording, a final draft of your script, the previous drafts of your script, and a written assessment of your writing, recording, and editing process.

Important Details to Keep in Mind

Remember that narrative essays are very subjective genres within the realm of writing. You should write the essay in a “first-person” POV and stay true to your beliefs, but you should always strive to be reflective and critical. While writing, always ask yourself: how does my own perspective mesh with the perspective of others?

- Remember that you are writing for other people, not for yourself. This is not a journal entry. Readers/listeners should be able to clearly visualize and understand what you are narrating.
- Avoid being overly obvious in your essay (you want people to think critically and be intrigued!). For instance, you do not want to say “In the end, I learned that...;” make your reader do a little work in order to grasp the essay’s overall message or lesson.
- Rather than overtly stating how you felt, try describing it through action and illustration. Instead of saying “I was scared,” why not try something along the lines of “I was sweating profusely and shivering uncontrollably”?
- *Too many* details can make your essay boring; be illustrative yet selective with your descriptions.
- Remember that it is impossible for the mind to remember an event exactly as it occurred. It is expected that your essay is slightly embellished. Most good narrative essays are around 90% truth and 10% fiction (I made this statistic up, but you get what I mean!).
- Take advantage of the audio medium. Remember that with audio recordings, you can change the tone and loudness of your voice, you can make dramatic pauses, you can add music and sound effects, and you can even alternate the speed of your voice to instill an emotional effect. Be creative with the medium, but also be sensible with your choices (for instance, overuse of music in an audio-essay can be distracting, and at times, pointless). Your choices should have rhetorical significance.
- Last but not least, be open, brave, and honest! Choose an original and/or bold topic that you are genuinely interested in sharing with the world. Happy writing/speaking/recording!

Multimedia Writing and Rhetoric – Evaluation Sheet for Audio-Narrative Essays
 Created and Edited by Instructor Angel Daniel Matos, University of Notre Dame

CATEGORY	DESCRIPTION	POINTS
Originality and Creativity Ten (10) Points	The title, topic, introductory sentence and closing statement demonstrate outstanding creativity. The writer/speaker takes advantage of the possibilities of the audio format to offer a unique delivery of the written content.	
Central Idea/Purpose Ten (10) Points	The essay is focused on a central idea/theme that is easily interpretable and clear. The essay as a whole conveys a meaningful and/or thought-provoking message/lesson to the audience.	
Content Fifteen (15) Points	Ideas are clear and thoroughly explained. The essay provides illustrative details that breathe life into the narrative. The content of the essay leads to both <i>recognition</i> and <i>discovery</i> .	
Balance and Logic Fifteen (15) Points	The essay demonstrates an effective balance between description and reflection. The experiences depicted in the essay strengthen and support its main idea(s) and purpose(s).	
Development Fifteen (15) Points	The overall structure and development of the essay is logical and fluid. All of the essay's components work in conjunction to create a sense of wholeness. No part of the essay seems disconnected.	
Tone and Emotion Ten (10) Points	The speaker is capable of conveying the emotions and tone embedded within the script, without seeming <i>overly</i> dramatic, false, or pretentious. The narration of the essay seems fluid and natural.	
Editing and Clarity Five (5) Points	The audio-narrative is perfectly understandable, and the narrator speaks loudly and clearly. There are no awkward pauses, distortions, or distractions in the audio-narrative.	
Grammar and Spelling Five (5) Points	The script of the essay demonstrates artful and effective command of the English language. There are few grammatical/spelling errors in the prose.	
General Essay Rules Ten (10) Points	The audio-narrative and the script follow all of the rules given by your instructor (time limit, instructions, format, page length, etc.).	
Previous Drafts Three (3) Points	A minimum of two (2) <i>peer-reviewed</i> drafts are included with the final draft of the script. You are more than welcome to include additional drafts that demonstrate the development and progress of your script from beginning to end.	
Self-Assessment Two (2) Points	A one (1) page (double-space) assessment of your experience writing the script and creating the audio narrative is included with the final draft.	

Overriding Criterion (Originality and Authenticity): If it is determined your essay was plagiarized, downloaded from a webpage, translated using an online computer program, written by another person, originally written as a requisite for a previous course, or created/obtained in any manner that violates the intellectual or academic integrity of the University of Notre Dame, you will automatically receive a grade of **F** (0 points) on this paper. Depending on the gravity of the situation, you might face being reported to the appropriate academic authorities.

Peer Writing Critique

To help your partner diagnose the strengths and weaknesses of their own work, identify the following sentences or passages in their draft:

1. The three sentences that helped you best understand what your partner is trying to say
2. The three sentences that were the most unclear to you
3. The passage where you see the most accurate interpretation of the material
4. The passage where you think your partner missed an alternative interpretation of the material
5. The sentence where an example best illustrated a conclusion
6. The sentence where an example least accurately illustrated the meaning of a conclusion
7. The passage where your partner made their best inference from the sources/data
8. The passage where your partner made their most questionable inference
9. A sentence where your partner made clear one of their assumptions about the topic or material
10. A sentence where your partner did not clarify or explain an assumption they made
11. The passage with the clearest transitions between sentences and ideas to build an argument
12. The passage with the most confusing transitions

Adapted from Brookfield, Stephen D. *Teaching for Critical Thinking: Tools and Techniques to Help Students Question their Assumptions*. San Francisco, CA: Jossey-Bass, 2012.

The “Never Again” List

Sample instructions:

For the formal writing assignments of this course, you will keep a personal, ongoing list of grammatical and stylistic errors that you vow “never again” to commit. After each assignment, you will identify a new error to add to your “Never Again” list. With every new assignment you turn in, you will print out an updated copy of your list and staple it to the back of your paper. To help you keep track of your list’s growth over the course of the semester, the syllabus notes the number of points your list should have for each assignment.

Only the errors on your “Never Again” list will count toward the “Grammar and Style” score you receive on the rubric for that assignment, though I may make a few suggestions for new errors to add to your list in the future.

Implementing the list:

A “Never Again” list works well in courses with frequent formal writing assignments intended to build competency in written communication. This strategy limits the scope of the errors you will be marking while taking a developmental approach to improving students’ standard written English. This technique can be especially helpful for students who are English language learners or who struggle with written English.

You can of course alter the details of the assignment to work for your course. You might:

- Use a “Never Again” list immediately. For the first assignment, have students attach a “Never Again” list with an error (or a specified number of errors) they already know they make frequently.
- Consider having students add two or three errors each time, especially if your course has less frequent writing assignments.
- Use the list as a log of examples. For each point on the list, require students to paste a copy of the error in context and a corrected version of the sentence.

Example of the development of one student’s list:

2nd Assignment—“Never Again” 1. Comma splice	8th Assignment—“Never Again” 1. Comma splice 2. Affect vs. effect 3. Subject-verb agreement with indefinite pronouns 4. Possessive apostrophe 5. Less vs. fewer 6. Comma use for appositives 7. Punctuation use around quotations
4th Assignment—“Never Again” 1. Comma splice 2. Affect vs. effect 3. Subject-verb agreement with indefinite pronouns	

Developed from Walvoord, Barbara E., and Virginia Johnson Anderson. *Effective Grading: A Tool for Learning and Assessment in College*. 2nd edition. San Francisco, CA: Jossey-Bass, 2009.

Plan to Use Writing for Teaching

	Mon	Tue	Wed	Thurs	Fri
Week 1					
Week 2					
Week 3					
Week 4					
Week 5					
Week 6					
Week 7					
Week 8					
Week 9					
Week 10					
Week 11					
Week 12					
Week 13					
Week 14					
Week 15					
Week 16					

Important Semester Dates

Spring 2017

January 17: Classes begin
 March 11-19: Mid-term break
 April 14-17: Easter holiday
 May 3: Last class day
 May 8-12: Final exams

Fall 2017

August 22: Classes begin
 October 14-22: Mid-term break
 November 22-26: Thanksgiving holiday
 December 7: Last class day
 December 11-15: Final exams