

Model Proposal

Overview

I propose a series of diary entries that chronicle the work my classmates and I performed in cloning GAPDH genes from various plants and using the gene sequences to assemble a phylogenetic tree of the plants. I experienced large emotional swings during this lab project, and I believe diary entries would be especially effective at conveying not only what I did, but also what I was feeling during the highs and the lows of the project.

Purpose: This story will provide a record of my lab work this spring. It will also provide a record of my emotional state during my hardest but most rewarding semester in college. (Graduating in May—Woohoo!)

Audience: Since it's in the form of a diary, I'll ostensibly be telling the story to myself, but I also will be talking to loved ones who might one day be interested in learning about my experiences as a BMB student in 2019. When I describe the experiments, I'll use technical language, and I don't necessarily intend to comprehensively report on the experiments. However, I'll provide enough detail to tell a complete story of the science and a record of my feelings.

Format: A series of diary entries. Since I'll be writing to myself, I will use technical jargon and the language will be informal at times. However, I'll be aware of my wider potential audience and will make sure the story is complete and self-contained. For the same reason, although diary writers typically don't edit their work, I'll make sure my writing is mechanically sound and of a quality that's more like a memoir than a diary. I'll compose my drafts on a Word processor. However, my final copy will be handwritten, with sketches. I anticipate it will include 5-6 entries, each 2-3 composition book pages in length.

[This file is supplemental material to Wang, *If They Build It: Student-Designed Assignments in a Molecular Biology Laboratory*, prompt 5.2 (2021), doi: 10.31719/pjaw.v5i2.85]

Content: The entries will contain sufficient detail that I would be able to recall what I did even when I'm a senior citizen. Unlike most diaries, this "excerpt" will contain a beginning (an entry describing the proposal and start of the project), a middle (entries about the nested PCR, subcloning into the pJET vector, sequencing and—ugh!, the bioinformatics), and an end (the Eureka! moment when we found that our phylogenetic tree matched exactly what we expected, except for the *Brassicales* members, which led to all sorts of questions and a possible summer research project). At the same time, I'll be highlighting my emotional state throughout the project in those moments.

Rubric

	Successful A	Marginal C	Unacceptable F
Technical Content: Accuracy	Conveys all technical content—procedures, results, analysis, or conclusions—with a high degree of accuracy. The science is sound.	Some technical content is misstated, providing an inaccurate portrayal of the experimental work.	Serious errors in the account reveal large gaps in understanding of the scientific material.
Technical Content: Scope	Does not necessarily provide a comprehensive account of the benchwork, but surveys all important aspects of the cloning, sequencing, and bioinformatics to tell a complete science story.	Omits one or more important stages of the project, leaving a gap in the account of the experimental work.	Fails to address multiple stages of the benchwork.
Clarity	Organization and effective use of language make for a clear account. Logical connections between sentences, paragraphs, and entries makes the account cohesive.	Organization between and within diary entries and/or on the paragraph and sentence level pose challenges to the reader’s comprehension of the overall story.	Organizational issues and language bemuse the reader and would lead to misunderstanding the account.
Writing Mechanics	Free of errors in grammar, punctuation, and spelling; uses logical syntax and appropriate diction.	Multiple usage errors and poor style choices detract from the reader’s experience.	The story is a chore to read because it is riddled with errors.
Emotional Effect	Moves the reader and helps him/her understand and connect to my emotional state throughout the narrative.	Provides insight into my emotional journey, but not much emotional impact.	Fails to move the reader emotionally.

Workplan

I will be working alone on this project.

I plan to write three to five drafts of the work. Each draft will involve substantive revision. I will revise based on self-assessments, two rounds of instructor feedback, and feedback from two or three peers.

Deliverables and Deadlines:

- Proposal Approved by April 3*
- First complete draft by April 10
- Self-assessment by April 12
- Revision by April 15
- Solicit instructor feedback by April 15
- Solicit feedback from Ernie & Elmo by April 17
- Revision by April 22
- Solicit instructor feedback and feedback from Ernie, Elmo, and/or Oscar by April 22
- If needed, revision by April 24
- If needed, self-assessment by April 27
- If needed, revision by April 29
- Submit final draft, portfolio, and reflection by April 29*

* = course deadlines

[Note: The meta-assignment was introduced during Week 10 of the semester. Proposal approvals were due at the beginning of Week 13. Final projects and portfolios were due during Week 16. I have retained the dates above since they were not actual dates, but rather an illustration for students to consider as they created their own timelines.]