Explanation for the Assessment – Instructor Notes

Context

This is the third major essay students had to write in my FWS course – *"Big Brain Moments: a Logical History of Neuroscience"*. Before this essay, we discussed three major figures from the history of neuroscience – Galen, an ancient roman neuroanatomist, Vesalius – a renaissance anatomist and artist, and Descartes – a French polymath. All these figures had developed a model for functioning of the brain and the body.

Task

This essay asked the students to write a letter from one of these figures to another. In the letter, they were tasked with convincing the receiver on why the author's model was better at explaining the functioning of the brain, at the same time criticizing the receiver's arguments in a scientific manner. At the same time, they were asked to write a blind spot in the author's arguments, something that the author themselves would not know to be false until modern times.

Design

This essay moved higher in bloom's taxonomy as compared to the second essay (submitted as SA1). Students were asked to explicitly defend and criticize arguments with evidence.

In this essay, I wanted to move ahead in my goal of developing student's unique writing voices. The letter was written in contemporary language, without assuming or using any modern scientific terminology or knowledge.

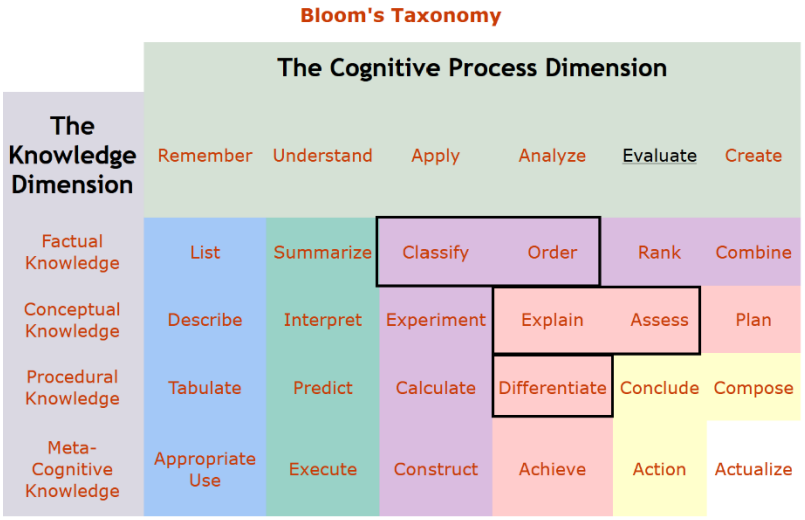


Figure 1 Revised Bloom's Taxonomy (adapted from Dianna Fisher, OSU)

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The essay is divided into three parts -

1) First submission (50 point)- Graded for completion only

2) A structured peer review, which also acts as the rubric for final grading (15 points) – Graded for completion only

3) A Revision reflection (20 points) alongside the revised submission (80 points)

First Submission Prompt – Student Facing

A letter across time

Galen was a boisterous man who did not shy away from denigrating his peers. Vesalius was a calm, level-headed neuroanatomist, who unwittingly made a lot of enemies during his efforts to disprove Galen. Descartes, father of western philosophy, argued for a separation of mind and body, and placed the pineal gland as the interaction point between the two. These men were, in their own way, scientific revolutionaries. They also probably had a lot of opinions about each other.

Your task is to write a letter from one of these thinkers to another, expressing these opinions

Maybe Vesalius is writing to Descartes, furious (or impressed) at what the philosopher has done with anatomy and his philosophical musings that may or may not always follow the brain anatomy. Maybe Descartes is writing to Galen's ghost, explaining how his mechanistic explanation of the human body is far superior to that of Galen. The scenario is COMPLETELY up to you — **but the letter must do the following:**

1. Reflect what your "author" **actually believed** about the brain, the soul, and the methods of science, drawing on the readings. The voice should feel true to the historical figure.
2. Engage directly with **one or two ideas** held by the **letter's recipient** — agreeing with it, challenging it, or complicating it, with a reason grounded in the readings done so far.
3. Reveal at least one thing your author still got wrong, even if they don't realize it themselves. Let the historical blind spot show.

Close the letter with a 1 short paragraph of your own voice — step outside the fiction and briefly explain what you think this exchange reveals about how scientific ideas change over time.

Keep in mind: You have creative freedom here, but the letter needs to **be historically grounded,** not just imaginative. Think of it as wearing a costume that still has to fit. A good letter will make a reader laugh or feel something, and also teach them something real about the history neuroscience.

Rationale:

The previous assignment was aimed at identifying and reporting the arguments. This assignment takes one step forward. Here you will explicitly criticize arguments based on historical findings and logic, in addition to reporting the arguments of the “author” you choose.

Resources :

These (chapters) are for your reference. You are not obliged to read everything. You can also find your own sources for your claims, but please make sure to cite them properly. **Please refer to the course policy on generative AI in the course syllabus.**

PEER REVIEW WORKSHEET – Student Facing

Essay 3 — A Letter Across Time

Give the feedback that you would hope to receive. ***Be specific and respectful.***

How to Use This Worksheet

Read the letter ALL THE WAY THROUGH once before writing anything. Make a mental note of the important bits - who is writing to whom, what they are arguing about, and IMPORTANTLY how the letter makes *you feel*. Then read it a second time with this worksheet in front of you.

Rules for giving good feedback:

- Be specific. "I liked this" is kind but not useful. "When Vesalius tells Galen he trusted his own eyes over Galen's books, the letter shows Vesalius's dissection-first method instead of just naming it" is useful.
- Point to the text. When you suggest a change, quote or paraphrase the specific sentence or passage you are referring to. You don't have to type out the whole sentence or paragraph.
- When suggesting an addition or a deletion, specify *WHY* you think it will be a good change.

First Impressions

Before diving into the criteria, capture your initial response to the whole letter as a reader.

1. Who is writing to whom, and what is the emotional temperature of the letter (furious, admiring, smug, wounded, pleading)? Where does that come through strongly?

2. What is one real thing about the history of neuroscience that you learned (or were reminded of) by reading this letter?

1. Historical Fidelity — Did They Really Say That?

Does the letter reflect what the author actually believed about the brain, the soul, and the methods of science? Check the author's arguments against the readings (Finger Ch. 4–6, Wickens Ch. 2–4, or the writer's cited sources).

- ✓ Each major argument the author makes can be traced to the readings or a cited source.
- ✓ Beliefs are not swapped between thinkers (e.g., Galen is not handed Descartes' pineal gland; Descartes is not handed Vesalius's dissections).
- ✓ The letter does not overstate or oversimplify what the author actually claimed.

What is working well:

Point to one argument you are confident this historical figure really made.

One suggestion for revision:

Is there an argument you could not find in the readings, or that seems to belong to someone else? Reference your source.

An argument that is missing:

What is one argument this figure actually made that would fit naturally in this letter, or make it more convincing? Reference your source.

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2. Engaging the Recipient

Does the letter engage directly with one or two of the recipient's actual ideas — agreeing, challenging, or complicating them — with a reason grounded in the readings?

- ✓ The recipient's idea is described fairly — the recipient would recognize it as their own.
- ✓ The author's stance on that idea (agree, challenge, complicate) is clear.
- ✓ The stance is backed by a reason — an observation, a dissection, a logical argument — not only by insults or praise.

What is working well:

Where is the author's response to the recipient most convincing? What reason makes it land?

One suggestion for revision:

Does the author agree or disagree without giving a reason, or twist the recipient's idea to make it easier to attack? Is there a real counterargument the recipient could make that the author should answer?

3. The Blind Spot

Does the letter reveal at least one thing the author still got wrong — without the author realizing it?

- ✓ You can identify at least one belief in the letter that modern science showed to be wrong.
- ✓ The error is shown through the author's confident claims, not announced ("of course, I may be wrong about…").
- ✓ The blind spot is something the author genuinely believed, not a mistake invented for the letter.

What is working well:

In your own words, what is the blind spot? What did the letter do that let you see it, even though the historical figure can't?

One suggestion for revision:

If you could not find a blind spot, say so. If the author points out their own error, suggest how the writer could let it show instead.

4. Voice

Does the letter sound like this particular person writing to this particular recipient — and does that voice hold up from start to finish?

- ✓ The voice fits the historical figure (e.g., Galen's combative confidence, Vesalius's measured care, Descartes' systematic reasoning).
- ✓ The tone fits the relationship — how this author would feel about this recipient.
- ✓ The voice stays consistent; it does not slip into textbook summary partway through.

What is working well:

Quote one sentence where you could most clearly hear the author speaking. What makes it sound like them?

One suggestion for revision:

Where does the voice slip — into dry summary, modern-sounding phrasing, or someone else's personality? Point to the spot and suggest what the author might say instead.

5. Creativity

Does the creative frame carry the history, or just decorate it? Did the letter make you laugh or feel something — and teach you something real at the same time?

- ✓ The scenario (who writes to whom, and why) is a deliberate choice that adds meaning — e.g., writing to a rival's ghost says something about how long his ideas lasted.
- ✓ The letter makes the reader feel something: humor, anger, admiration, tension.
- ✓ The creative moments also teach something about the history, not just entertain.

What is working well:

Where did you laugh, wince, or feel something? Quote the moment. What made it stand out?

One suggestion for revision:

Where does the letter read like a summary in costume? What can be changed?

6. Closing Reflection

In one short paragraph, in their own voice, does the writer explain what this exchange reveals about how scientific ideas change over time?

- ✓ The writer clearly steps outside the fiction and speaks as themselves.
- ✓ The paragraph makes a specific claim drawn from this exchange, not a generic one ("science builds on itself").
- ✓ It connects back to the letter — its conflict, its evidence, or its blind spot.

What is working well:

Restate the writer's claim in one sentence. What makes it specific to this letter?

One suggestion for revision:

Could this paragraph be pasted at the end of any letter? If so, what detail from this exchange could make it specific?

Anachronism Check

Apart from knowing the recipient's ideas, does the author say anything they could not have known in their own lifetime?

- ✓ The author does not use discoveries, people, or tools from after their own time (e.g.nerve electricity, modern brain mapping).
- ✓ The language avoids modern terms the author would not have used (e.g., "synapses").
- ✓ The author does not know the modern verdict on who was right.

What is working well:

Where does the letter feel convincingly of its time — a detail of language, method, or knowledge that puts you in the author's century?

One suggestion for revision:

Quote any moment where the author knows something they couldn't have known. If you are unsure, write it as a question for the writer.

Overall Feedback

The single most important thing this writer should focus on in their revision: *Choose one. What would make the biggest difference?*

Something in this letter that you genuinely want to steal for your own writing: *What did this writer do that you wish you had done?*

Any questions you have for the writer: *Questions show the writer where a reader's mind got curious or confused.*

REVISION REFLECTION – Student Facing

Essay 3

Submit this with your revised report. ***Tell me what you changed, why, and what you'd do next.***

Name: _____ Date: _____

How to Use This Worksheet

Fill this out after you finish revising, with your first draft, your peer review worksheet, and my comments open next to your revision. This is not a test and there are no right answers. I read it before I read your revision, so it tells me where to look and what you were trying to do.

Three things to know:

- **You don't have to take every suggestion.** You are the author. Declining a suggestion with a clear reason is good revision.
- **Revision is more than editing.** Fixing commas and word choice is editing. Revision changes what the report says, how it is organized, or how well it is supported. Aim for at least one real revision.
- **Point to the text.** When you describe a change, quote or paraphrase the before and after.

Part 1. What Did Your Peer Reviewer and Instructor Say, and What Did You Do?

For each criterion on the peer review worksheet, summarize your reviewer's (and your instructor's, if any) suggestion in your own words. Then circle what you did with it and explain. If your reviewer had no suggestion for a criterion, write "none" and tell me whether you revised that part anyway.

1. Historical Fidelity — Did They Really Say That?
Does the letter reflect what the author actually believed about the brain, the soul, and the methods of science?

Your reviewer's suggestion (in your own words):

What you did (circle one): Adopted Adapted Declined

What you changed or why you declined:

2. Engaging the Recipient

Does the letter engage directly with one or two of the recipient's actual ideas — agreeing, challenging, or complicating them — with a reason grounded in the readings?

Your reviewer's suggestion (in your own words):

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Does the letter reveal at least one thing the author still got wrong — without the author realizing it?

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Does the letter sound like this particular person writing to this particular recipient — and does that voice hold up from start to finish?

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Anachronism Check

Apart from knowing the recipient's ideas, does the author say anything they could not have known in their own lifetime?

Your reviewer's suggestion (in your own words):

What you did (circle one): Adopted Adapted Declined

What you changed, or why you declined:

Part 2. Your Most Important Revision

Pick the ONE change that made the biggest difference to your report.

Which level was this change at? (circle one)

Whole report (structure, order,voice) A section or paragraph Sentences

Before:

Quote or paraphrase an example what the first draft said or did.

After:

Quote or paraphrase an example what the revision says or does now.

Why is the new version better?

Part 3. Looking Ahead
What will you take from this revision into your next essay?

How has your writing process changed between Essay 2 and Essay 3?

What will you want to improve upon in Essay 4:
Something about how you read, plan, draft, or revise, not just "proofread more."