

**Ohlone College Faculty Innovations in Learning Project**  
**Calibrated Peer Review in Basic Human Anatomy and Physiology**  
**Assessment, Outcomes, and Recommendations**

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Note: Calibrated Peer Review is a trademarked, web-based writing process. I did not use the formal CPR process this first time through the project.

As described in my Title III Grant Faculty Innovations in Learning, a human diseases/disorders peer review project was carried out in the Biology 104 Basic Human Anatomy and Physiology class that I taught this spring (2007). The project involved 3 main parts.

### **I. Initial Draft**

In mid March, I introduced the Disease Project to the class. They were asked to choose a disease or disorder to write about. I provided both specific prompts and an example for them to follow. The first draft of the paper was due in early April and counted for 20 points, similar to what students would get for a typical lab assignment grade. As for a lab assignment, most of the points were given except in cases where major parts of the writing prompt were missing, if the writing was not original enough, or if the assignment was submitted too far beyond the due date. Almost all students submitted these drafts without too much difficulty, with the majority of students submitting electronically. Students used their 4-digit random number (issued at the start of the course) for their drafts and for their reviews.

#### Recommendations:

- Instructor may ask for students to submit topic for approval.
- Instructor should distribute or post review rubric during this phase of project so that students know exactly how many points each part of their paper is worth.
- Instructor may have to give more guidelines on how to extract information from sources.
- Allow for some creativity in the project? Some students wrote in a highly personalized style, and this had some appeal. All the prompts still need to be covered.
- Length of paper was suggested 1-2 pages. 2-3 pages may be more appropriate.
- Avoid students choosing same topic. 2 students wrote on gout, 2 chose diabetes, and 2 chose Tourette's.
- Avoid diseases with uncertain physiological basis, or which are too broad. (narcolepsy, autism; hypertension—causes are difficult to pinpoint.)

## II. Review Process

Before the spring break, I presented 2 forms for the students to use for the peer review of 2 other students' disease drafts. One form was a rubric which followed the prompts of the original assignment. Each of the 6-7 prompts was assigned a number of points, and the total added up to 20 points. The other form was a simpler assessment on a scale of 1 to 10 on the general flow and quality of writing. Hard copies of forms were distributed in class. Most of the drafts were in electronic form, so when I distributed to each student their 2 drafts to review, copies of the review forms were also sent out. These forms were sent out as Word files so students could type directly onto them and send them back to me. (Note: I did not know how to upload documents as "word files" on Web CT. The logistics in coordinating this part of the project were more complicated. It was manageable for a ~20-student class, but for a larger class the instructor load would be unappealing.)

Following my original description of the project, I gave 10 points for submission of the reviews. Most students did this part of the project without any difficulty. A few excellent students went into the actual drafts and used the tracking tool, as I had suggested to them, to directly edit and comment on their classmates' writing. Over half the students made fairly detailed comments on the rubric form, allowing the writer of the paper to know specifically what part(s) were strong or missing in their paper. Several students were sloppy in the review, or not trained to critically review a paper. These received fewer points for the reviews they submitted.

I did go over each paper and the reviews myself to make sure that each student would be properly informed as to where their paper stood with me. I believe the calibrated peer review process is meant to bypass this laborious step for the instructor.

### Recommendations:

- Instructor can show examples of what constitute full credit for reviews as well as examples of poor reviews. At the same time, I should examine the calibrated peer review website to see how they handle the problem of poor reviews. I would very much like to try out the "real" calibrated peer review process with my next class. Allot more points (10 per review) for the review process, but hold students to higher standards so that they really can learn more from the peer review process. (see survey results at end)
- I tried to contact the English department regarding any Ohlone accounts with the plagiarism program "TurnItIn." I received no reply and gave up, given the limited amount of time I had to look over student papers this time around. I must take some action on this, as I find plagiarism a major problem whenever I have assigned class writing.

### **III. Final Paper**

In early May, each student was sent (electronically) or given (hard copies) the 2 sets of reviews of their draft, along with their draft that contained some comments either from student reviewers or me. The final rewrite of the paper was due May 15<sup>th</sup>. This final rewrite of the paper was worth 20 points of their final exam grade. As it turned out, the lecture exam portion of the exam came to 134 points, and the laboratory practical exam was 59 points. The 20 points for the final rewrite did not amount to more than 10% of the final exam grade, but it did add a component of “authentic assessment” to a course that otherwise consists primarily of traditional assessment (short answer, matching, identification, multiple choice).

Not every student received the full 20 points for the final rewrite; in fact, I gave out only 6 perfect scores. Two students did not give me a final rewrite at all. Of these, one was most likely an email problem. The major problem with most rewrites was the failure to adequately revise and improve the paper according to the reviewers’ suggestions. Although I did not want to stress “grammar” or “English” in this project, I was dismayed to find final rewrites which still contained grammar mistakes, typographical errors and language that was not adequately reworded.

Recommendations:

- I gave the least amount of guidance for this part of the project. Next time I need to clarify to students what I expect in the rewrite of the paper. Resubmission of unrevised or poorly revised drafts will result in lower scores.
- More points can be given for this part of the project, and the final exam portion of the class grade can be increased from 15 to at least 20%. (Written assignments grade can be decreased to 20%.) Each paper can receive a total of 30 points: 20 points following the detailed rubric and 10 points from the more general review form.

### **IV. Additional Assessment**

#### **A. End of class student survey; 14 surveys collected**

Item 16. “I gained significant understanding of the anatomy and physiology of disease from writing my disease paper.” (3 “Yes” replies; average numerical score 8.1 on a scale of 1 to 10, 10 highest)

Item 17. “I gained significant understanding of the anatomy and physiology of disease from reviewing my peers’ disease papers.” (2 “Yes” replies; 1 “kind of”; average numerical score 7)

#### **B. Personal Feedback**

One student did comment to me very enthusiastically that she “learned a lot” from reading one of her peer drafts on leukemia. Another student was very pleased to have reviewed a paper on AIDS right before our class lecture covered the immune system.

One student added this in her email as she submitted her final rewrite: “Doing this project has been enlightening for me in finding out more about my own condition! Thanks!”

### **Final Summary**

I am very pleased that I was able to plan and carry out this “peer review disease project” this spring. Ever since I started teaching Biol 104 in Fall 2005, I had wanted to include some sort of more substantial writing assignment in the course. This peer review project allowed me to incorporate project-based learning or authentic assessment with a cooperative learning component into the course. In addition, the subject of disease is so important in the study of human anatomy and physiology, but in a 16-week survey of 11 body systems it is impossible to do justice to the topic, much less examine specific diseases in detail. I am pleased with the outcome and accomplishments of the project. At the same time I hope I will be able to make the project even more effective by following the recommendations listed above.