WRI 116: Writing in the Natural Sciences
Planning Committee
Convened: 3 December 2009
Participants: Carrie Menke, Paul Gibbons, Nick Valdez, Anne Zanzucchi

Physics Discussion (30 minutes, with Carrie Menke as guest visitor)

Review of student sample work from Physics 8

Reviewed student sample work from Physics 8, which was a student's summary of a seminar visit. Quality varied considerably in terms of engagement. Students also grappled with the prompt "in your own words," as many students struggled to provide more than summary (or copied text).

Readings for Physics and Math students

Research review articles are less common in Physics and Math; update letters are more frequently published. Another layer of complexity is that research articles in these fields are obscure, in part because of the high-level math details. Science, Nature, and Physics Today are recommendable resources for readable scientific articles in their fields.

For these students, it may be worth taking a historical approach to building a research review. Scientific notebooks from earlier in the 20th century are good examples of scientific communication

Action item: Anne Z. will request copies of Charles Bazerman's *Edison's Light* as one example of field notebooks.

Action item: Remind Spring WRI 116 faculty about Scifinder database

Summary of student need from the Physics faculty perspective

Jay Sharping and Kevin Mitchell shared in writing their thoughts about student need. Basically students need more practice with problem-solution writing. Ideally, their prose would be "short, concise, clear" providing a "logical explanation of a physical phenomenon."

Topics for writing exercises, in collaboration with Carrie Menke

The following email summarizes potential topics for workshop activities that pertain to our evaluation of "scientific literacy." Thanks, Carrie!

"Here's a list of the topics I'll put together for writing exercises. They can be used with graphs, equations, or putting the concepts into their own words.

1. conservation of energy
2. conservation of momentum

3. Newton's 1st law
4. Newton's 2nd law, F = m*a
5. Newton's 3rd law, For every action there's an equal and opposite reaction
6. Kinematics
7. Bernoulli's equation (fluid dynamics)
8. Buoyancy (aka Archimedes principle)
9. Inverse Square Laws (gravitational force, electrostatic force)
10. Torque
11. Cross Products and Dot Products (mathematical techniques with many applications in physics)
12. Integrals and Derivatives

"It will be some time--probably January--before I can put this information together for you. Please let me know if you have any questions." (Carrie Menke)

Portfolio Review (30 minutes)

Discussed portfolio rubric draft relative to High and Low sample portfolios shared on-screen and written survey responses submitted on November 15. One point of confusion in the written responses related to the Middle sample seeming like a High Sample. Discussion followed about the Middle portfolio author's confident tone with notable gaps in supporting evidence. Otherwise, written responses and discussion reflected a high-level of agreement, considering that responses were shaped by survey questions rather than a detailed rubric. Among the three survey respondents (Olson, Gibbons, Kahlert), there was 78% (or 7/9 matching scores) agreement in written ratings. Another respondent (Valdez) brought his completed survey to the meeting; his responses matched the H-M-L ratings. Among the four respondents, then, the agreement was 83% with 10/12 matching scores.