Calibrated Peer Review (CPR) in General Botany (BOT 105)

http://cpr.molsci.ucla.edu/Home.aspx

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Drosera photo by Noah Elhardt
BACKGROUND

CPR started 1998, UCLA

Over 1000 institutions: biology, chemistry, physics, math, engineering, humanities, etc.

http://cpr.molsci.ucla.edu/Publications.aspx


Choice: Little to no writing with instructor feedback versus a peer review approach

CPR: You train (calibrate) students on peer reviewing before they do any reviews of their peers or themselves.

When is it potentially useful?

- When you have ~ 20 – 30 students
- When all students are doing the same writing assignment
General Botany: The Carnivorous Plant Essay

Terms & Concepts → Outline → Draft 1 → Draft 2

Text Entry → Calibrations → Peer review → Self assessment

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Nepenthes (HSU Greenhouse)
The CPR Process

Instructor provides instructions; source materials; examples of high, medium & low quality writing for calibrations; a set of questions that students must answer about the high, medium & low quality examples.

- **Student enters text**

  Students answer the questions for the 3 examples. Your questions should address issues of content and writing quality. The software does not let students proceed with the assignment until each step is complete. Students can attempt the questions a second time.

- **Calibrations**

- **Peer review**

  Each student applies the same set of questions to 3 of their peers. Each peer is rated on a scale of 1 to 10.

- **Self assessment**

  Each student applies the same set of questions to their own assignment and then uses the 1 to 10 scale.
Grading by CPR

- **Student enters text**
- **Calibrations**
- **Peer review**
- **Self assessment**

Students get points for completing each of the 4 steps. You can set the amount of points for each step.

Students cannot proceed with the assignment until they complete each step.

The weight a peer has on the grade of another student depends upon how strong a reviewer they are, which is defined by how many of the calibration questions they answered correctly.

If a student’s self assessment is out of line with the 3 peer reviews, then the self assessment is down-weighted.
Instructor Grade versus CPR Grade

Potential Advantages of CPR

- When courses are large (> 20 – 30 students)
- Instructor preparation time: 15 – 30 hours for first time assignment preparation; 2 hours of troubleshooting during assignment; 2 hours grade checking. *Total assignment time is decreased because of decreased grading time.*
- A bad reviewer has very little effect on the grade of anyone they review.
- Observation: Shock effect, ‘peer pressure’ effect
- Observation: The creation of the assignment, due to all of its components and sequential nature, forced me as the instructor to give better guidance about the writing assignment than what I was giving when I was using this Carnivory assignment without CPR.
Disadvantages & Challenges of CPR

• The success of CPR hinges on how well the calibration step works. It is difficult to train students on what you think the differences are between the middle and low quality versions of your writing assignment.

• Students are fairly convinced that their peers are terrible reviewers and/or the CPR software & instructor inexperience with CPR is the cause of their low grade .... rather than there being any issues with their writing!

• Improvements could be made to the software design.
CPR Support

• Instructors (authors) access their accounts via the UCLA “library” server. This server is only used for creating and accessing assignments.

• Students access their accounts through the CSU Chancellor’s Office server. All student data is therefore housed in the CO in order to comply with FERPA regulations about student records crossing state lines.

• The CO pays for a CPR site license that grants use to all CSU campuses.

• The goal of the CSU CO is to have a CPR Administrator at each campus. Last semester I was helped by people located in the CSU system and others at UCLA. There are a lot more California educators using CPR, but the only way to find these people now appears to be the e-grapevine.
HSU help with CPR

- There is no HSU CPR Administrator yet. More people would have to become interested in using CPR for that to happen.
- I’ll meet this semester with anyone who is interested. I will be using it again Fall ’14 for GenBot. (fjs3@humboldt.edu).
- Kim Vincent-Layton (kim.vincent-layton@humboldt.edu) will facilitate communications among HSU faculty and other CPR users.
- This presentation, some literature, and the CPR Authors Manual have been posted on the CNRS website.