Assignment 4, Calibrated Peer Review (CPR) of Discussions for Experiments 4 and 5

The advancement of science requires that knowledge be shared among individuals. Scientists communicate the results of their research by publishing articles in scientific journals. When a scientist submits an article for publication, it is sent by the editor to two or three other scientists who have themselves published articles in the same field of research. The researchers to whom the article is sent are called *referees*. The referees read and review the article. They are asked to write comments about the quality and relevance of the experimental work, the interpretation of the data and the style of exposition. Reviewers are required to provide explanations of their judgments to the authors.

In this assignment, you will serve as a referee for the discussions of three of your peers. Three of your peers will in turn referee your discussion. Prior to performing the peer reviews, each of you will review three calibration discussions. For each calibration discussion, you will answer a series of questions. After answering the questions, you will rate each document on a scale of 1-10. The CPR program will compare your answers and scores to the official answers and scores for the calibrations. If your performance on a calibration discussion is inadequate, you will be directed to repeat the calibration. The program will then provide you with a report of the correct answers and score, and you will be able to read comments about the answers to clarify your understanding of the concepts. After reviewing the calibration discussions, you will be given three peer documents. For each peer discussion, you will answer the same questions and score each discussion. Finally, you will be presented with your own document for a self-review.

When you review your peers' discussions, you may find the questions are more difficult to answer. A simple yes or no may not seem to suffice. For the peer reviews, it is important to explain your answers to the questions with detailed comments so the author can learn from your review. The questions are meant to serve as a guide so that you focus on the necessary points. Base your final numerical score for a peer discussion on how completely and correctly they have discussed the important aspects of the experiments.

When you are done with the reviews, CPR will allow you to view a report of the results of the assignment. You will be able to read the reviewers' answers to the questions and see the scores that the reviewers gave your discussion. You will receive a final score for the assignment out of 100. This score is based on how well you reviewed the calibration documents, the scores that you received from reviewers on your discussion, how well you reviewed the three peer documents you were given, and how well you reviewed your own discussion. This assignment is worth approximately 8% of your final lab grade.

Bloom's Taxonomy

The development of knowledge and intellectual skills can be described using Bloom's Taxonomy. Benjamin Bloom and a committee of educational psychologists categorized learning objectives in 1956 by domains and levels. In the cognitive domain, the following levels are found:

Knowledge: ability to recall or remember information
Comprehension: ability to organize, compare, interpret, describe, and explain concepts and ideas
Application: ability to use knowledge in a new situation, especially to solve problems

Analysis: ability to separate concepts into their component parts and to support inferences with evidence
Synthesis: ability to create a new concept, structure or solution by combining different elements together
Evaluation: ability to make judgments about the value of an idea or the quality of work and to justify the opinion

Knowledge is considered to be the lowest level of cognition followed by comprehension and then application. Analysis, synthesis and evaluation are the higher order cognitive skills. The Calibrated Peer Review assignment will help you to exercise one of your highest level cognition skills, evaluation.

Instructions for Calibrated Peer Review (CPR)

Connect to the CPR Login web page at:

http://bearcat.bc.edu

- Follow the link for **Create new user profile**
- Enter your Eagle Number. The CPR server will give you a unique USER ID and you will create a password. Write these down! Once this process is completed, you will be able to access the CPR software and course.

NOTE: To access bearcat.bc.edu from off-campus, you need to set up VPN. Please go to the following Help page: http://www.bc.edu/offices/help/getstarted/network/vpn.html

Before starting your CPR assignment:

- After entering your USER ID and password, you will be directed to take a 10 minute "tour".
- Take the short pre-test for new users. All information necessary to complete the pre-test can be found in the CPR tour. You must take this tour prior to taking the pre-test.

Assignment Structure—You *must* complete *all* of the following stages by the deadlines stated. Failure to complete *any* part of the stages by the deadline will result in a score of 0 for Assignment 4.

Stage 1: <runs from now through November 1st, 12:00 noon>

a) Add html marks to your typed discussion. The text entry box in CPR accepts only text and html marks. In order for the document to be formatted properly once it is submitted, html tags must be present. Therefore, you must type: <P> after the last sentence of each paragraph in order to separate the paragraphs.
Example:
This evidence leads to the only logical conclusion.<P>

b) Submit the discussion by copying and pasting it into the CPR text entry box. Use the "Preview" button to check the formatting before you click on "Submit". Note that the word count of the document must fall within the range of 450-850 words. Do not include your name anywhere in the text that you submit!

Stage 2: <runs from November 1st through November 8th, 12:00 noon>

a) Evaluate the calibration discussions.
   - Throughout this stage of the process, you may find it helpful to print the discussions you are evaluating. You will need to answer questions about each discussion, and having a printout will facilitate the process and reduce the amount of scrolling necessary.
   - You must click Submit Answers to officially record your work. Use Save Answers if you start working on a calibration discussion and need to finish it later on.
   - You have one chance to re-take any calibrations that you do not master. The re-take can only help your grade, not hurt it.

Stage 3: <runs from November 8th through November 15th, 12:00 noon>

a) View answers to the calibrations.
   - After the deadline for Stage 2 has passed, you can view the correct answers to the questions along with comments. Click on the answer that is highlighted in blue to view the comments. *It is important that you read these comments in order to improve your reviewing technique*.

b) Evaluate three texts written by your classmates. This stage is called *reviews*.
   - You need to provide an adequate explanation of your judgment to the author of the discussion; therefore, you must write an explanation for the rating you assign in the comment box, or the program will not accept your review.

c) Evaluate your own text. This stage is called the *self-assessment*.
   - The score that you give to your own discussion will be compared to the scores of the three reviewers who evaluated your text.

Stage 4: <runs from November 15th through November 30th, 12:00 noon>

Check the results of the assignment.

Important note! Do not search for the Boston College CPR website using Google or other search engines. You will likely be directed to a webpage on a server named cpr.molsci.ucla.edu. You *must* access CPR at BC using the **bearcat.bc.edu** server.

When assigning a score, use the *whole scale* of 10 points.

Guidelines for the scores:

1 or 2- The discussion is completely unsatisfactory. The text does not demonstrate that the author has an understanding of the principles. Serious misstatements have been made. The discussion is disorganized and unclear.

3 or 4- The discussion is not a finished effort. The text indicates that the author has only a vague understanding of the principles involved. Significant

erroneous statements have been made. The text lacks good organization or clarity in presentation.

5 or 6- The discussion is acceptable but does not demonstrate that the author has a sophisticated understanding of the concepts. The text contains errors in statements and possibly some irrelevant statements. An attempt at organization and clear presentation has been made.

7 or 8- The discussion is a good quality effort. The text indicates that the author has an understanding of the principles. The text contains only minor erroneous statements, which do not affect the overall argument or discussion. Some inappropriate references to details may be included. Sections of the text are organized and clear.

9 or 10- The discussion excels in all areas. The text demonstrates that the author has a sophisticated understanding of the concepts. The text does not contain unnecessary statements but may contain suggestions for improvements or further studies. All statements are correct. All sections are well organized and clearly presented.

To access more detailed information about CPR:

Connect to the CPR Home Page at: http://cpr.molsci.ucla.edu Click on the word "Downloads" on the side-bar. Scroll to the bottom and click on **Understanding Your Results**. A PDF document will appear that thoroughly explains the system used for scoring assignments.

To access CPR technical support:

Contact Prof. O'Connell at oconnell@bc.edu. Please include your CPR loginID and password with your message.