FROM ODP TO CPR: USING OCEAN DRILLING PROGRAM DATA IN CALIBRATED PEER REVIEW ASSIGNMENTS

Elizabeth Heise and Amanda Palmer-Julson
University of Texas at Brownsville and Blinn College

Abstract:

HEISE, Elizabeth A., Department of Chemistry and Environmental Science, The University of Texas at Brownsville, 80 Fort Brown, Brownsville, TX 78520, eheise@uclalumni.net and PALMER-JULSON, Amanda, Natural Sciences, Blinn College, P.O. Box 6030, Bryan, TX 77805

In the past two decades an enormous amount of data has been accumulated by the Ocean Drilling Program (ODP). ODP is an international partnership of scientists and research institutions organized to study the evolution and structure of the Earth. It is funded principally by the US National Science Foundation, with substantial contributions from its international partners. The Joint Oceanographic Institutions manages the program. Texas A & M University is responsible for science operations, and Lamont-Doherty Earth Observatory of Columbia University is responsible for logging services.

Much of ODP's data are accessible on ODP's webpage (http://www-odp.tamu.edu). There include detailed descriptions of every site and every core that has been drilled since 1997. Each of these sites were designed to address specific questions in geology.

Our assignment involves reconstructing the geologic history of a Large Igneous Province, the Kerguelen Plateau, Southern Indian Ocean (Legs 120 and 183). Students are shown how to approach the data on ODP's site and then write a geologic history based on those data.

We chose to use Calibrated Peer Review (CPR) assignments as a way to focus introductory undergraduate student's web-based research so as to not overwhelm them with the data but at the same time utilize the valuable resource from ODP. CPR is a web-based technical writing and critical thinking instructional tool (http://cpr.molsci.ucla.edu). CPR was recently developed under an NSF systemic reform initiative in Chemistry (DUE 95-55-605) at UCLA, and is maintained on their servers. It is currently supported by the University of California, and is shared at no cost to colleges and universities.

In CPR assignments, students submit short essays, then read and evaluate examples of well-, moderately and poorly written essays to calibrate their scoring. Their overall assignment grade combines the scores for the student's essay with the results of their calibrations, their assessment of peers' essays, and self-assessment. CPR thus follows the model of actual scientific writing: anonymous peer review. Furthermore, it addresses a problem facing college faculty across the nation: how to assess critical thinking and technical writing skills without requiring additional grading resources.