Exploring Science Classroom Inquiry, Equity, and Assessment through Partnership

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Abstract: Karen Clayman has taught at A.P. Giannini Middle School for 26 years. Jeff Schinske is a graduate student in Ecology and Systematics at San Francisco State University. During the 2005-2006 school year, we worked together in a teaching partnership sponsored by SEPAL and NSF's GK-12 Program. We co-planned and co-taught science inquiry lessons 2 days a week. We feel that combining the skills of an experienced teacher and a practicing scientist permits the exploration many intriguing issues facing professional cultures and facilitates planning science education. These explorations ultimately assist public school students who receive the benefit of both partners' experience. This poster represents a concept map exhibiting the connections between some specific issues in the broad fields of Inquiry, Equity, and Assessment we have explored this year.

Inquiry

Students Thinking Like Scientists
- New Thinking Exercises
- “Research Lesson”

New Active Lessons
- Dry Ice
- On Halloween, students performed experiments to investigate the properties of dry ice as compared to regular ice. Students developed hypotheses to explain why they were able to inflate a balloon on a test-tube, and related this observation to the term "sublimation."

Classroom Equity
- Equality in Student Participation
- Recognizing Differences in Student Learning Styles

Assessments
- Presenting Experiment Data and Defending Hypotheses
- Misconceptions
- Concept Maps
- Formal Assessments
- Science Publications

Involves
- Students prepared reports in the format of scientific journal articles to explain the results of classroom experiments and science fair projects. We found that students took great interest in producing original work in the format used by scientists. To recognize their achievements, we bound a set of their reports for their records and the school library (see copy on table).

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