

PKAL EXPERIENCE: JUNE 13-16, 2007

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Positive Experiences at PKAL:

- Valuable interaction between the Eckerd team: David Grove, Denise Flaherty, Iris Yetter, Kathy Watson, and Laura Wetzel.
- Provided the opportunity to exchange ideas with Denise Flaherty about a first-year common curriculum for Marine Science and Biology students. We brainstormed about some team-taught courses and now need to further develop them before talking with our faculty colleagues.
- Networked with individuals who may help us in the future:
 - Alison Morrison-Shetlar, Dean of Undergraduate Studies, University of South Florida.
 - Rayford Law, architect, Principal/Director of Higher Education at Kling Stubbins.
- Alerted me that there is a new Education Forum in *Science* magazine seeking submissions.
- The “Leaders on Leadership” plenary was particularly useful:
 - Learned that Grinnell conducts an annual Survey of Undergraduate Research Experiences (SURE) in which any school can participate. I believe we would rank very favorably and should participate.
 - Learned of a national research course for first-year students funded by HHMI. 2007-2008 is the pilot year, after which time schools will be asked to apply for the program. The basic premise is that students will collect bacteria from their local environments (e.g., soil, seawater), send them to a central processing location where the DNA will be analyzed, and the results will be returned to the students for further study. This is likely to be a highly competitive program, so we might consider finding out more now so that we can run our own pilot project this year and thereby have a strong proposal next year when they solicit participants. We should alert Joel Thompson and Steve Denison to this opportunity.
- Prompted me to think that we should use “clickers” at faculty meetings. This would introduce people to the technology, speed faculty meetings by avoiding vote counts, and allow us to vote anonymously.
- Allowed me to see that many of the barriers to interdisciplinary teaching amongst the sciences at Eckerd are also common at other institutions.
- Provided inspiration for Kathy Watson and I to develop a workshop for faculty: *Avenues for Science Literacy on a Liberal Arts Campus*, a forum for discussing interdisciplinary courses and/or curricula. This workshop would require outside funding. The ideas below might form the foundation for a proposal:

- What are our goals for introductory science courses? Ask the question, “If this is the only class this a student has in science, what do I want them to know?”
- How do you convince science faculty that general education in the sciences is important?
- How can we show non-science faculty that science courses have value and are critical parts of a liberal arts education?
- How can we show students that science courses have value?
- What are the key elements of science literacy?
- What do students know coming out of high school? Where are we starting and where do we plan on finishing?
- How do you infuse active learning and scientific experiments into a class if you do not have time or space for separate laboratory periods?
- What are the characteristics of effective science courses? Some ideas:
 - Interesting
 - Engaging
 - Challenging
 - Rigorous
 - Scientists as responsible and active citizens (i.e., civic scientists)
 - Integrate and apply knowledge
 - Hands-on activities (i.e., student-active pedagogy)
 - Students conduct scientific research
 - Real-world applications
 - Communicate the wonders of science
 - Quantitative skills
 - Teamwork
 - Interdisciplinary connections
 - Process as opposed to content oriented
 - Don’t try to cover everything
 - Don’t take the “mile wide and inch deep” approach
 - Demystify science by showing its limitations
 - Relate why science is important and relevant
 - Think, “How can we encourage students to want to take more science classes, even if they don’t major in science?”
 - These courses should not be ones they have to take, but ones they want to take.
 - Overcome fear of science
 - Deal with large numbers of students in an effective and efficient manner

Negative Experiences at PKAL:

- Lack of time for us to work as a team. Collaborations occurred despite, rather than because of, the meeting format.
- The first evening and first full day of the meeting could have been eliminated without losing any substantive content. This provided a poor first impression and instilled a negative attitude amongst some participants.
- Some small-group facilitators were poorly prepared or personally unqualified to lead discussions.
- A few individuals dominated the full-group discussions, minimizing the potential for innovative thinking.
- Meeting format, running from 6:30 am to 9:30 pm, was unnecessary and inhibited teamwork and substantive discussion.