

### Grant Chat 3

#### Integrating Teaching, Research and K-12 Outreach Components in Grant Proposals

Monday, February 18, 2008

**Present:** Marcia Harrison, Tina Cartwright, Elaine Baker, Dwight Robinson, Simon Collier, Bin Wang, Anita Walz, Suzanne Strait, Maria Babiuc, Michael Castellani, Rudolf Burcl, Brian Antonsen, Aley El-Shazley, Judy Fan, Huong Nguyen, Beth Wolfe, and Heidi Williams

-NSF Broader Impact Activities – What broader impacts will result from the proposed activities? How will the research address one or more of the broader impact areas (i.e., underrepresented groups, etc.)?

-Tina Cartwright works with the Upward Bound Program, a program that targets 9-12<sup>th</sup> graders, that are low-income, first generation students and also is the Principal Investigator of the Communities Educating Tomorrow's Scientists (COMETS). COMETS works with pre-service teachers (aka: undergraduate education majors) teaching them to teach and apply scientific methods to children in informal after school programs. The PI and Program Director for COMETS prepare the pre-service teachers, teaching them different techniques and methods of scientific applications until they feel confident to instruct the children.

-There is a push to partner the College of Education and Health Services with the College of Science in developing ways to teach science in the classroom. Kellogg Elementary is serving as the "model" school for Best Practices on how to best teach science. Also, there is a plan to develop a "League of Schools," which seeks to build connections between research and teaching.

-Building partnerships with graduate students will contribute to broader impact. Graduate students can be trained to teach different disciplines of science.

-Tina wants everyone to think of her as a resource to use to brainstorm ideas about K-12 Outreach components of grants.

-Suzanne Strait has used different approaches to broaden impact. Currently, she is seeking a computer game developer to create educational tools to teach science. Strait says that if you can list a student as part of the grant, it increases your fundability. If the proposer can recruit students from different disciplines, this is appealing to NSF.

-It would be good to recruit more students in Science Education – this would not only be beneficial to those seeking grant funding, but would benefit the state as a whole.

-If you present "prior support" statements within NSF proposals, you should make sure to include statements about broader impact.

-Elaine Baker offered advice and ideas on preparing statements that integrate teaching and research.

- She suggested that perhaps the weakest research statement a proposer could offer would be that he/she will incorporate your research statement as part of class curriculum.

-Include students in your research. The lower the student (i.e., freshmen in college or even high school students) will make your proposal stronger. By including high school students, you can say that this will prepare them for and make them better students in college.

-The Council on Undergraduate Research (CUR) distributes a Quarterly report and has published a “Developing and Sustaining of Research Supportive Curriculum” book that both outline ways to build ways to broaden impact. You can request copies from the Center for the Advancement of Teaching and Learning.

-It’s important to remember that because you are doing research, that that does not automatically mean that you will become a better teacher – this is a misconception.

-Include students or teachers who participate in the Health Sciences and Technology Academy (HSTA) in your proposal. To include them you could say that you will hold workshops for them, etc. Be sure to request travel money to support their travel to Marshall.

-A centralized outreach center needs to be developed and implemented at Marshall. MU has many outreach programs, but they do not work together – this could really benefit the university as a whole.

-Propose a series of “science talks” at places like the public library to reach out to the community at large.

-Propose to develop a workshop to be given at the “Exploring Your Horizons” event – a workshop designed for 7<sup>th</sup> and 8<sup>th</sup> grade girls to spark an interest in science. Sponsored by the Association of Women in Science.