ONE SIZE DOESN’T FIT ALL: CREATING RELEVANT RESEARCH ETHICS TRAINING OPPORTUNITIES

Camille Nebeker
San Diego State University Research Foundation

BACKGROUND

San Diego State University (SDSU) is a large, public, urban university serving approximately 33,000 students and is part of the 23-campus California State University system. Since 2000, SDSU faculty and staff have attracted more than $1 billion in grants with significant support coming from the National Science Foundation (NSF) and the National Institutes of Health (NIH). Concurrent with this growth in research, SDSU has been actively engaged in enhancing awareness and value of responsible and ethical research practices.

For over a decade, SDSU’s Division of Research Affairs has worked with faculty to assess need and develop programs to promote responsible research practices. Presently, research ethics education is offered through lectures, courses and web-based tutorials. In addition, SDSU has received federal support to develop research ethics education including: 1) NIH/NCRR to develop human subject protection program infrastructure, including education on principles and practices for protecting research subjects; 2) NIH/NHLBI to create a culturally tailored, Spanish language, research ethics curriculum that targets Community Health Workers (CHWs/Promotores) assisting with research in Hispanic/Latino communities (Project TRES (Training in Research Ethics and Standards)); and, 3) Office of Research Integrity funding to promote understanding of basic research concepts among lay-research staff (Spanish and English) with limited formal training in research.

CURRENT INITIATIVES

We have focused some of our training efforts on non-traditional trainees (e.g., lay research staff, undergraduates) or unique aspects of
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In this vein, we are working with Professional Sciences Master (PSM) degree programs to identify research ethics training needs of students who will leave academia for professional science positions in non-profits, government, and industry sectors. In 2009, SDSU received funding from the NSF’s Ethics Education in Science and Engineering (EESE) program to develop Ethics Education for Professional Science Master’s degree programs.

PSM programs are unique in that they combine science preparation with employer-relevant graduate education in business, management, communications, and law (Teitelbaum & Lynch, 2010; Council of Graduate Schools, 2010). To date, the California State University (CSU) System has launched twenty PSM programs throughout California and is in the process of creating more (http://www.calstate.edu/psm/). As of October 2010, there were over 200 PSM programs in 100 universities nationwide (Gitig, 2010). This project will create a model for PSM faculty to develop industry-relevant research ethics for the professional setting targeted by the degree program. As PSM graduates take professional positions, understanding of ethics and integrity in scientific research outside of the academy will grow. This initiative strives to enhance student awareness of important ethical issues and develop critical thinking skills of future science professionals working in four PSM fields: computational, biological, environmental sciences, and medical physics. The model is designed to be adapted by any of the PSM programs within the 23-campus CSU system and can also be used by PSM programs nationally. Project teams, ideally within an internship setting, use guided discussion of topics associated with research ethics (e.g., data management, conflict of interest, authorship, etc.) to identify ethical dilemmas and challenges faced by PSM professionals in the workplace. Phase 1 of this project is complete and involved PSM students, faculty mentors and industry partners in biotechnology and medical physics working together in teams to review commonly accepted topics for research ethics, discuss whether and/or how those topics appear in the workplace, identify ethical dilemmas and challenges PSM graduates face as professionals in the workplace, and construct industry-relevant instructional case studies that reflect ethical challenges unique to the profession. A Teaching Resource Guide is in development and the MERLOT digital library is creating a teaching commons for sharing ethics education resources, including instructional cases, with other PSM programs. Phase 2 involves pilot testing the model with the PSM
programs in environmental sciences and biology at CSU Chico and Channel Islands.

**ONGOING CHALLENGES**

SDSU is implementing a multifaceted approach to research ethics education and engaging campus stakeholders to assist in creating a culture whereby RCR is accepted and valued. The SDSU RCR plan recognizes that training in RCR is ongoing and may occur in a variety of settings (e.g., lab, course, seminar, etc.). The SDSU Division of Research Affairs coordinates the plan and works with faculty and students to facilitate opportunities to access training and document training achieved. The challenge of developing and implementing research ethics training initiatives within the SDSU academic community is simply tied to resources—both human and fiscal. Another hurdle is to frame RCR education in a positive and proactive manner and to refrain from anchoring need for training to compliance and/or regulations. Strategies for 2011 involve reaching out to various levels of campus leadership to further advance research ethics initiatives and include:

- Engagement with the University Graduate Council to increase awareness of research ethics education as a critical component of academic programs. Likewise, assist faculty to integrate research ethics topics into existing curriculum where appropriate.
- Involve the graduate dean to initiate assessment of research ethics education into the academic program review process.
- Work with colleges to develop and maintain an inventory of courses or training offered by each department that adequately addresses relevant aspects of research ethics for the particular discipline.
- Provide faculty with the resources needed to train students and post-doctoral researchers whom they mentor.
- Continue to work with campus leadership regarding the importance of RCR in academic research programs.
- Involve the University Research Council and the Student Research Committee to provide input for guiding campus planning related to RCR training.

In summary, organizations have a variety of options to improve awareness of ethical, legal and social aspects of conducting research within and across disciplines. A commitment of institutional leadership
and engagement of key stakeholder groups will facilitate successful integration of RCR into the academic culture.

REFERENCES


California State University PSM: [http://www.calstate.edu/psm/](http://www.calstate.edu/psm/)
