

The Role of the Graduate School in Promoting and Enhancing Research Ethics and Scholarly Integrity Programs

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Over the past decade through dozens of projects (many supported by external funding from the Office of Research Integrity, the National Science Foundation, and ORI- and NSF-sponsored Council of Graduate Schools projects) researchers, educators, and senior administrators have combined forces to create important resources and models for addressing the educational needs of graduate students in the ethical and responsible conduct of research. A national dialogue about these resources and models is beginning to take shape among senior leaders with administrative oversight over graduate education. That dialogue reflects their greater familiarity with: the range of curricular resources; their respective strengths, weaknesses, and costs; and some possible ways in which these could be best adapted to meet the specific needs of their own students and campus research cultures.

The resources developed, which address behaviors and practices of greatest concern, have the potential to result in more responsible research conduct and better decision-making among faculty/researchers and graduate students, the faculty/researchers of tomorrow. There a number of challenges, however, and in CGS' experience the cooperation of graduate deans is instrumental to addressing some of the key challenges. These include faculty buy-in, costs and financing, administrative alignment, and impact. Two of the biggest challenges are scaling up appropriate resources to meet the needs of graduate students across disciplines and assessing the impact of activities.

1. Challenges of Scale. Reach appears to be inversely proportional to depth, at least at this stage in the evolutionary development of education and training in research integrity. Where experiences such as RCR training are made mandatory for students, the curricular resources are, for obvious reasons, typically the least time intensive, the most cost efficient, and the least responsive to context (e.g. of the discipline or of the institution). The educational experiences that will likely have the most enduring and meaningful impact on students behavior over the course of their research careers, however, are those where face-to-face experiences complement online modules and tests by engaging students in active discussion about nuances and relevance of case studies, the consequences of decisions and their typical sequences, and gray areas where solutions require introspection and dialogue with peers (students and/or faculty). Most universities engaged in RCR projects sponsored by CGS since 2004 utilized or developed both online and interactive face-to-face activities. But there was a great discrepancy between the high numbers of students who participated in wide-reaching online modules and the often low number who participated in face-to-face interactive opportunities (new courses, workshops, extra-curricular lectures, seminars, meetings, etc.).

2. Assessment Challenges. The experience of the 10 institutions participating in the ORI-supported CGS project (2004-2006), "Graduate Education for the Responsible

Conduct of Research,” “found assessment to be the most difficult of all challenges in establishing quality RCR programs” (CGS 2006, p.33). Attempts to assess the effectiveness of any wide-ranging effort to enhance education in research integrity will include assessment of:

- student learning
- the effectiveness of the instrument for assessing learning
- the institutional climate for integrity (and any gaps between faculty perceptions and student perceptions about that climate and the adequacy of existing coverage of research ethics and integrity issues), and
- the effectiveness of curricular reforms, activities, and interventions

Eight universities participated in the NSF-supported CGS EESE project, “Training Graduate Students in the Responsible Conduct of Research” (2006-2008) (NSF award 0529781). Across those eight universities, while clusters of universities employed similar strategies and resources (e.g. pre- and post- online module test performance, such as CITI modules), these were used in tandem with other, unique strategies, and no two universities’ assessment strategies were alike. Meta-assessment is needed, but it is very difficult (and was, within the time-span of a two-year pilot project, impossible) to measure the effectiveness of different instruments for measuring the effectiveness of different program components, especially given the diversity of institutional approaches to RCR education (CGS 2008a, “Appendix C, Assessment Strategies”).

The Project for Scholarly Integrity

The new CGS *Project for Scholarly Integrity* (2007-2011), supported by ORI, seeks to build upon the lessons from these prior projects and to address a much broader challenge: activities are too often perceived by faculty as mandatory “hoops” limited to regulatory and compliance issues or, at best, as professional development electives that could distract students from their real research activities. As a result, even the best resources and activities, despite strong backing from their developers and champions, can be relegated to a marginal place in students’ calendars or curricula rather than accorded an integral place in their development as scholars. If such perceptions are held by faculty advisors or PI’s, and they do not trickle down to the students, those students may perceive the discrepancy between their needs, on the one hand, and their educational opportunities, on the other, as sending a message about what is valued in their discipline or profession. The first administrative response to this challenge has been to break it down into component pieces: “faculty buy-in,” “professional development” programming for students, and climate assessments to demonstrate the need to address any gaps between students’ perceptions and needs and faculty perceptions and activities. Graduate deans have played key roles here, for example, in: appointing and convening planning or advisory committees that include subject experts and key staff as well as respected research faculty whose input and support at the planning stage will be influential in securing broader faculty buy-in; allocating resources and aligning administrative units to that educational and research staff are not seen as working at odds; and administering assessment instruments and feeding back the results to the community and to the advisory committees in ways that might shape the direction of any given program.

As part of the planning phase of *the Project for Scholarly Integrity*, CGS convened a planning committee of deans and subject experts who contributed their best ideas to a framework document (CGS 2008b) that will shape the structure of activities in which institutions participating in the project will be engaged. Based on their experiences with developing sustainable education and training programs in research ethics, specifically, and implementing university-wide graduate reform efforts more generally, planning committee members defined the minimal criteria for a comprehensive approach to research integrity and for meeting many of the typical challenges faced in launching and sustaining such programs. Despite detailed recommendations in a variety of areas, one of the first points that came up in discussion and upon which there was broad agreement was that the language we use to describe our efforts can have serious ramifications for the extent to which the broader goals of a program are adopted, tolerated, or even resisted by key members of the institution's research community. Defining the ethical challenges we face in the broadest sense of "scholarly integrity," inclusive of, but not limited to, responsible conduct of research (RCR) and "research integrity," was seen as important for circumventing the two most common responses from those faculty who express resistance to comprehensive programmatic efforts that go beyond current approaches: "we already do that" (i.e. address compliance issues) or "can you do it over there" (e.g. in an online training module that does not take time away from the lab or require modification of or integration into the curriculum).

There are broader cultural forces in the disciplines, in the changing geographical and social structures of research, and in the rewards structures of the academic profession that can make the present seem at the same time both an opportune moment as well as a uniquely challenging one to take on the enhancement of educational strategies for the ethical and responsible conduct of research. Given the current opportunities and challenges, leadership in efforts to build and enhance programs needs to be distributed across the university, and graduate deans are showing great eagerness and enthusiasm to play a part in these efforts.

References:

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