

Engaging Departments in Research Ethics Training

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Agenda for session

- Summarize national assessments of the state of research ethics education
- Frame the problem from national vs. campus perspective
- Outline MSU's steps to restructure research ethics education in 2015-16
- Show examples of assessment at the campus level
- Talk about lessons learned and ways of engaging departments in difficult conversations



Practical takeaways

- Using assessments in framing problems and solutions
- Engaging faculty in creating curricula that meet university-wide standards
- Honoring disciplinary differences while upholding common principles and expectations



The national perspective

- 1989 NIH Policy required “description of activities”
1994 update: no review of grants without a “plan for instruction”
- 2007 America COMPETES Act section 7009:
“each institution that applies for financial assistance from the Foundation ... describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project”
- 2010 NIH and NSF requirement for institutional plans and tracking for compliance



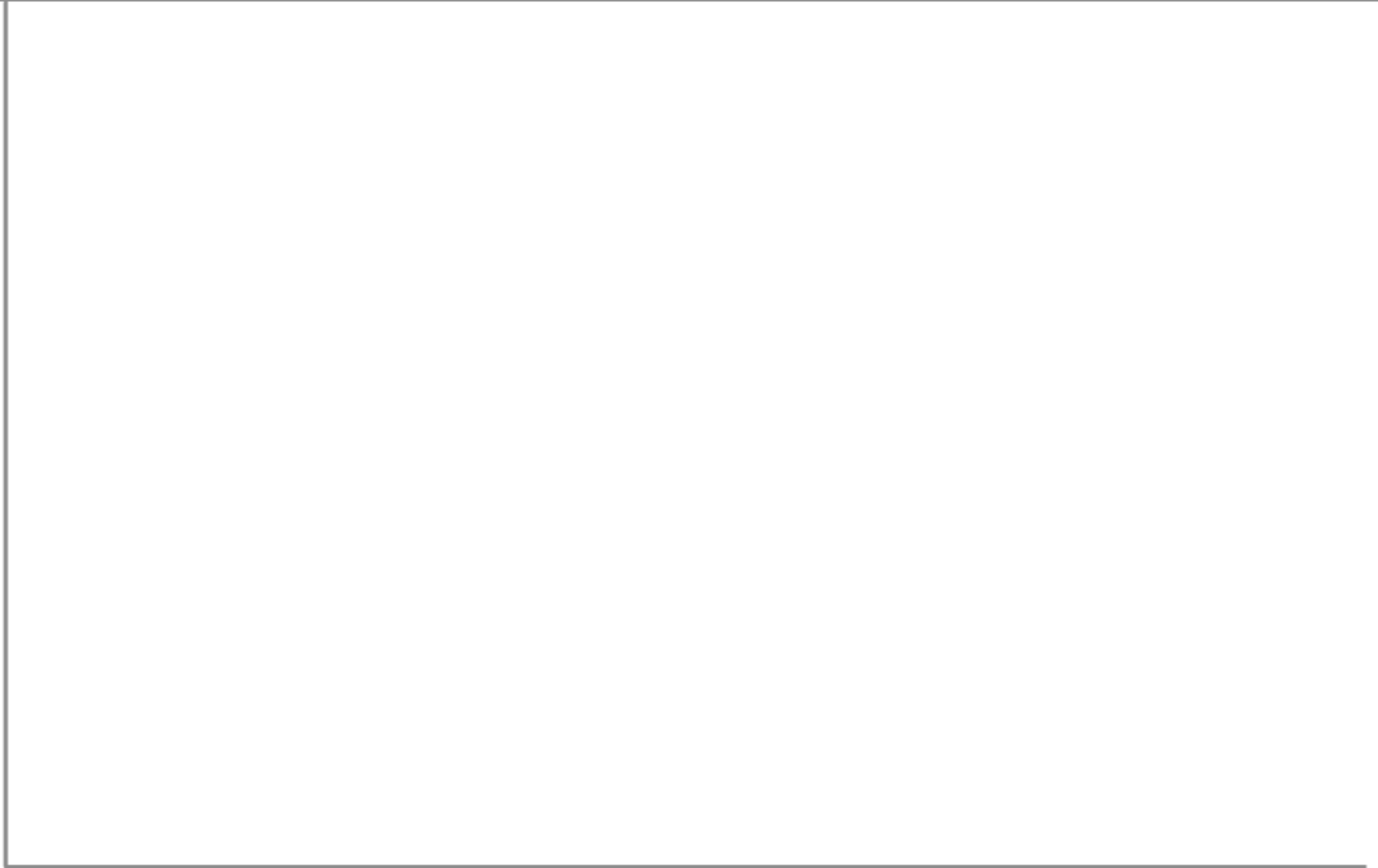
The campus response: Institutional Plans

Does your institution have a mandated research integrity/responsible conduct of research education plan?

Yes

No

Not
sure

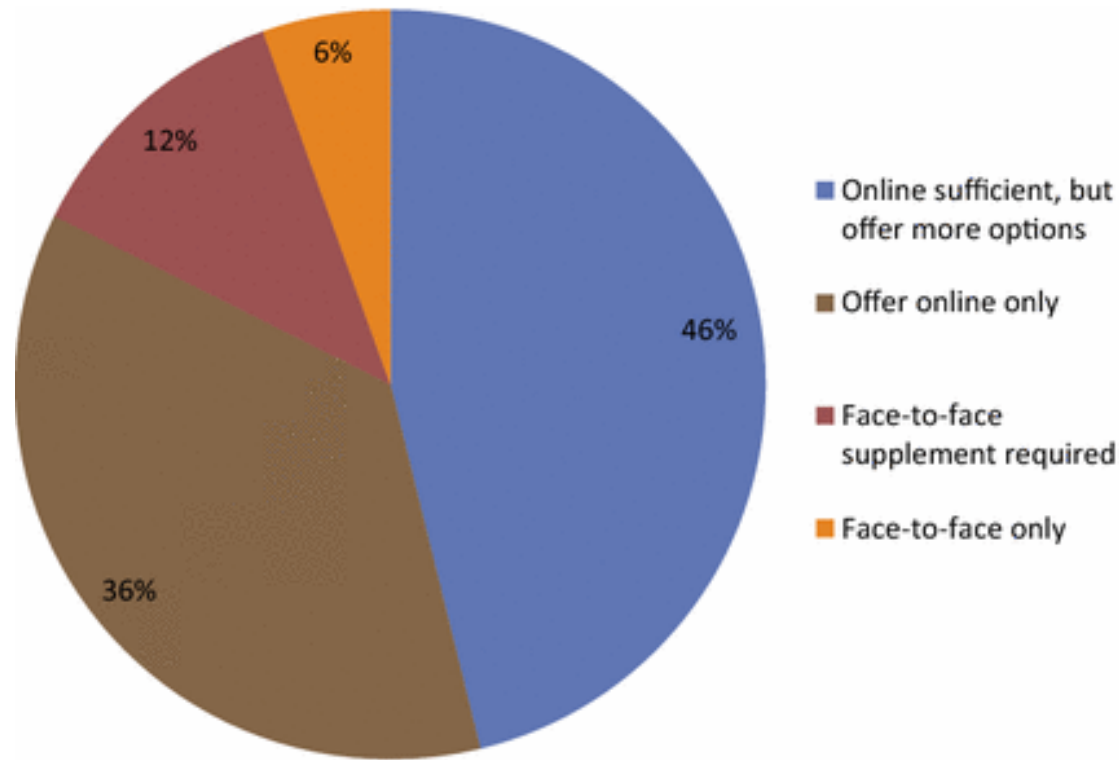


Which components are part of your mandatory education requirements?

- Online instruction modules only **A**
- Designated course only **B**
- Combination of online instruction and designated course **C**
- Some combination of the above and required instruction by faculty/advisor **D**

T. Phillips et al., “America COMPETES at 5 Years: An Analysis of Research-Intensive Universities’ RCR Training Plans,” *Science and Engineering Ethics*, March 15, 2017

For 82% of institutions surveyed, online only fulfills the requirement



n=91

if you do have a plan, for which group of graduate students is it mandatory?

Only those funded on federal grants

Only graduate students in certain disciplines

Only doctoral students

All graduate students

Office of the Inspector General Review, July 25, 2017

	Required trainee population is limited to NSF-supported participants	Required trainee population is not limited to NSF-supported participants
Trainee population is able to fulfill the RCR requirement by only taking online training or through document review	64%	9%
Trainee population receives RCR content through required interactive training (i.e., a course, workshop or seminar)	9%	19%

OIG Note: Numbers add to greater than 100% due to rounding

Is your mandated educational plan effective?

Yes

No

Unsure



The national perspective in 2017

T. Phillips et al., “America COMPETES at 5 Years: An Analysis of Research-Intensive Universities’ RCR Training Plans,” *Science and Engineering Ethics*, March 15, 2017

“The NSF policy requires universities to develop RCR training plans, but provides no guidelines or requirements for the format, scope, content, duration, or frequency of the training, and does not hold universities accountable for their training plans. Our study shows that this vaguely worded policy, and lack of accountability, has not produced meaningful educational experiences. . . .”

Office of the Inspector General Review, July 25, 2017

“Because NSF has not defined what constitutes appropriate training . . . when we examined the training provided by the institutions we reviewed, we had no basis for concluding that the training provided was insufficient to meet the RCR training requirement, even though some of the approaches we found did little to ensure that students and postdocs were being adequately educated about the responsible conduct of research”

“America COMPETES at 5 years” (2017)

“Our findings indicate that the majority of research-intensive universities across the United States have implemented RCR training plans that fail to meet at least five of these best-practice criteria:

1. Non-instructor-led, online-only programs do not provide adequate instruction
2. Multiple formats of instruction are needed
3. Programs should be wide-ranging, cross-institution, with content that varies by disciplinary areas and career stage
4. Ethics education should not be administered in a single ‘dose’
5. PIs should be positively involved in RCR training activities.”

J. Wells et al., “Survey of Organizational Research Climates in Three Research Intensive, Doctoral Granting Universities,” *Journal of Empirical Research on Human Research Ethics*, 2014

“the study findings also indicate that tailored locally specific solutions to foster research integrity may be more likely to succeed than more global, ‘one-size-fits-all’ types of solutions. . . . Solutions, pedagogical and structural, for the challenges of research integrity need to be customized to the variability of climate at the subunit level.”

****This study was the result of a cross-institutional pilot supported by the CGS Project for Scholarly Integrity***



national directives



campus implementation

What is the biggest obstacle to effective research ethics education on your campus?

Why don't campuses follow best practices?

Challenges to effective research ethics training

- Mandating (though not achieving) compliance is a direct approach
- Creating solutions centrally take less time up front
- Creating buy-in is a long, continuous process
- Campuses are used to compartmentalizing
- Shared responsibility requires trust
- Decentralizing decision-making carries risks



Michigan State's Approach to Research Ethics Training

- 2009 developed campus plans in response to COMPETES
- discipline-specific (described as “anomalous” in Phillips, et al., 2017—only institution out of 103)
 - mandated tracking for all funded research projects
 - available year-long workshop offered by the Graduate School and the Office of the Vice-President for Research and Graduate Studies
- 2009 assessed training before implementation
- 2014 assessed training after 2010 implementation
- 2015-16 adjusted plans based on results of assessments



Assessment Tool: Survey of Organizational Research Climate (SOuRCe)*

- Judge the impact of initiatives to sustain or improve the organizational environment for research integrity
- Monitor the organizational climate for research integrity over time

Offers snapshot of 7 dimensions of local research climate

Provides data at the institutional and unit level

***Developed by Carol Thrush, Brian C. Martinson, Lauren Crain, James Wells**

Now administered through the National Center for Professional & Research Ethics (NCPRE) at the University of Illinois



What we learned:

- From 2009 to 2014, a statistically significant improvement in perceptions of:
 - Effectiveness of education
 - Commitment of advisors to talking with advisees about RCR
 - Ability of people in departments to define misconduct
 - Socialization of junior researchers about RCR
 - Confidence in knowing how to report



What we learned:

- Some specific measures within colleges, while moving in the right direction, had not moved as significantly
- There was variation in disciplinary improvement—MSU's discipline-specific approach
- Variation in tracking methods and consistency of tracking for those not federally funded

Follow up: inventory of plans in 2015

Convened conversations among grad associate deans, grad program directors and faculty: use assessment results to review plans

What plans?



New MSU RCR plans in January 2017

- Result of iterative conversations among GS, units, governance, VP for Research, Provost
- Includes all graduate and graduate professional students (including online)
- Starts with common core (online modules)
- Staged by year
- Discussion-based requirements for all students
- Annual refresher requirements for all doctoral and master's research students
- Integration into disciplinary courses, advising and other activities
- Standardized tracking and reporting requirements



Campus Culture *not* Compliance

- Joint responsibility: central , unit, individual
- The conversation creates the culture as much as (or more than) than the training plan
 - Make it iterative—don't reach agreement too soon
 - Include stakeholders at all levels
 - Respect disciplinary differences while emphasizing shared values
 - Offer questions, not solutions
- Address the issue of “expertise”



Examples: Cross-program collaboration

Neuroscience: The Discussion based training requirement will be fulfilled for all Neuroscience Ph.D. students through a workshop activity at each of our biannual “Cross Campus Research Day” (CCRD) research retreats. The goal is to strengthen research interactions between faculty and students across multiple campuses. We will develop specific 1.5 hour workshops built around an RCR topic to be incorporated into the program of each CCRD event. Examples of possible discussion topics include, “Experimental design and statistical analysis planning before the experiment”, “Verification of biological reagents” and “Reporting scientific misconduct.” The workshops will ensure uniformity of discussion based training across all students and this will also facilitate reliable tracking of student participation in discussion based training.



Examples: Contextualizing Research Ethics

Math: For PhD students in the third and higher years of graduate study the guidance/thesis committee of each student has the responsibility to conduct discussions on the various aspects of RCR typically in the context of research activity. For example, plagiarism should be discussed in the context of writing a paper, referencing in the context of preparing a talk.

Chemistry: Starting in year 3, all doctoral students must complete 3 hours of annual refresher training. One group meeting will be set aside each semester to discuss RCR issues pertinent to the student's research group. Each research advisor will receive a reminder from the Graduate Office regarding their obligation to hold these meetings and they will be given a form to complete confirming completion of this training (one meeting during fall, spring, and summer semesters – 3 hours total).



Examples: Revising Coursework and Annual Evaluations

English

1. Every fall, the department and/or College of Arts and Letters will hold a 3-hour workshop on RCR.
2. Because it is a required course for all Master's and Ph.D. students, ENG 802 will incorporate at least 3 hours of discussion related to RCR over the course of the semester.
3. The Annual Progress Report will be amended to include a section on RCR, to be discussed with the advisor.



Examples: Changing Orientation

Music Performance

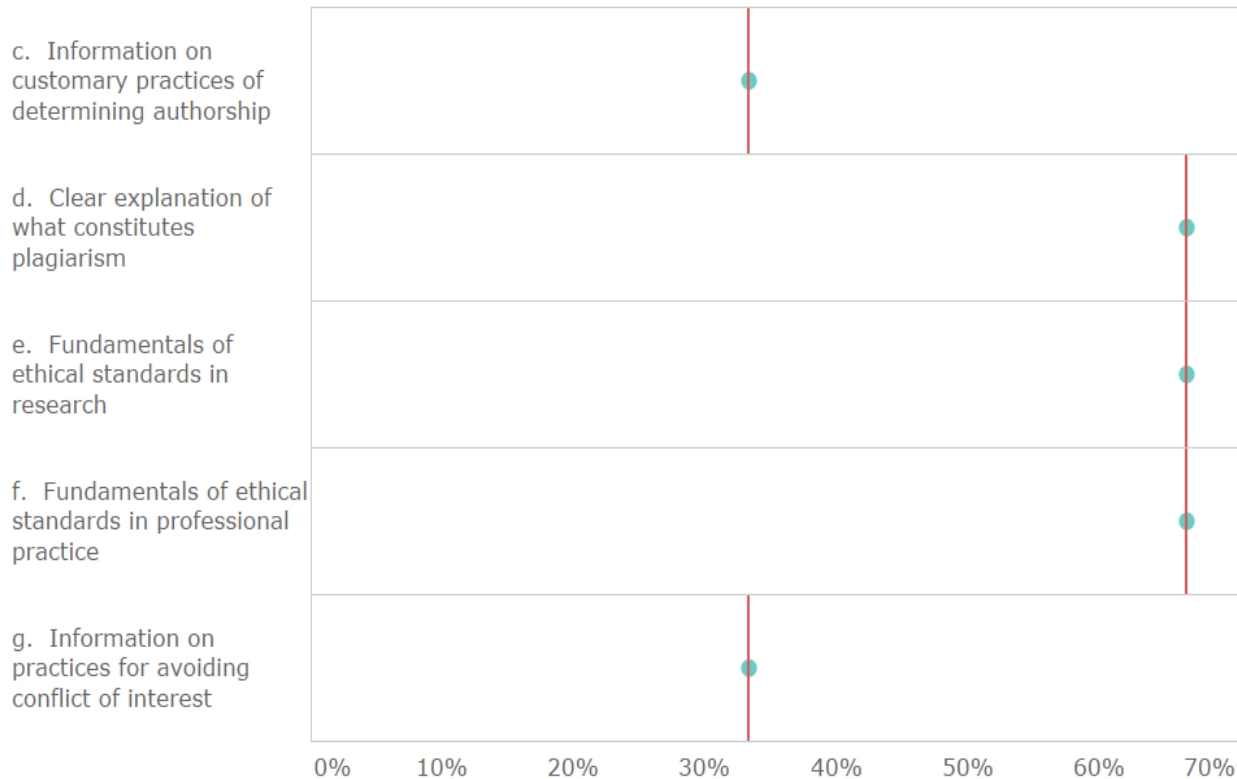
At the beginning of year 1, you are required to attend the RCR workshop (1½ hour) held as part of the College of Music Orientation for new graduate students.

The remaining hours of discussion-based training will occur during the two required courses in musicology



College A: late stage dissertators

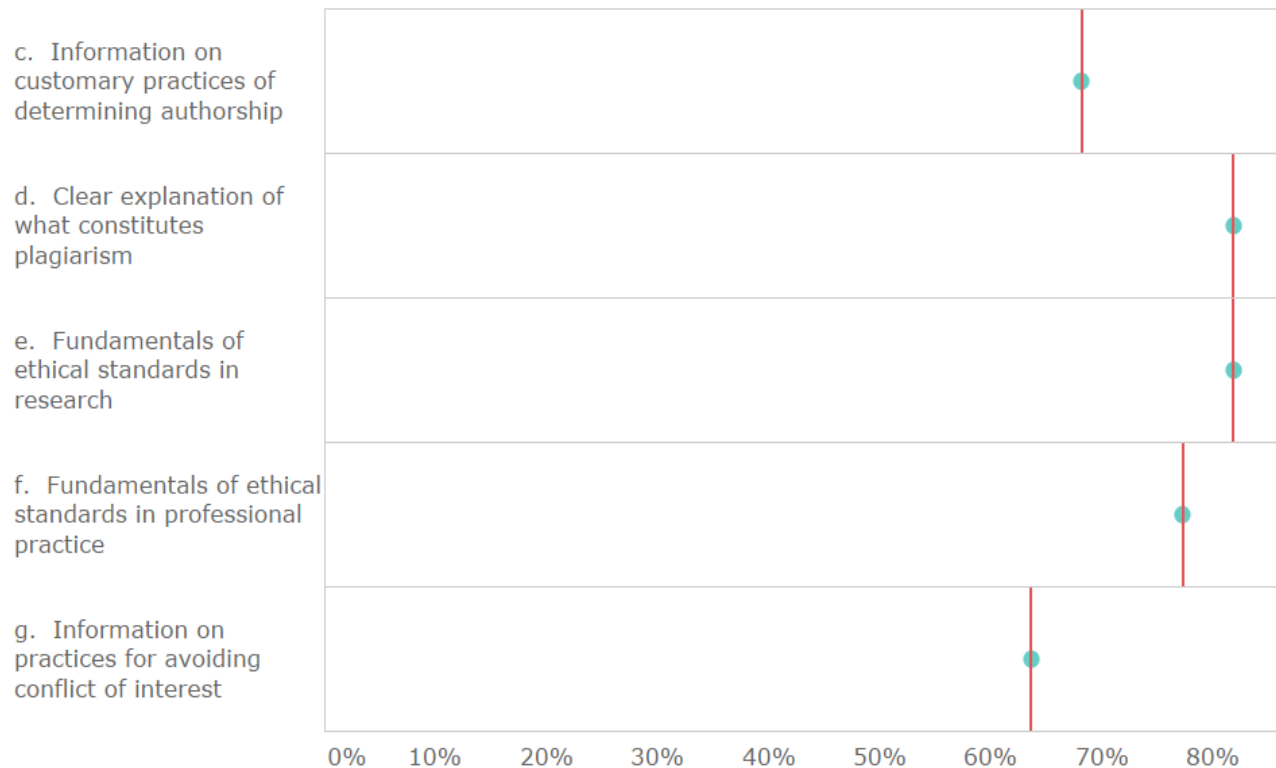
Percent that responded 'well', 'very well' or 'extremely well' to the prompt
 "How well has your current graduate/professional program provided you with the following?"



Fall 2017 implementation of gradSERU survey—doctoral students

College A: 1st-year course takers

Percent that responded 'well', 'very well' or 'extremely well' to the prompt
"How well has your current graduate/professional program provided you with the following?"

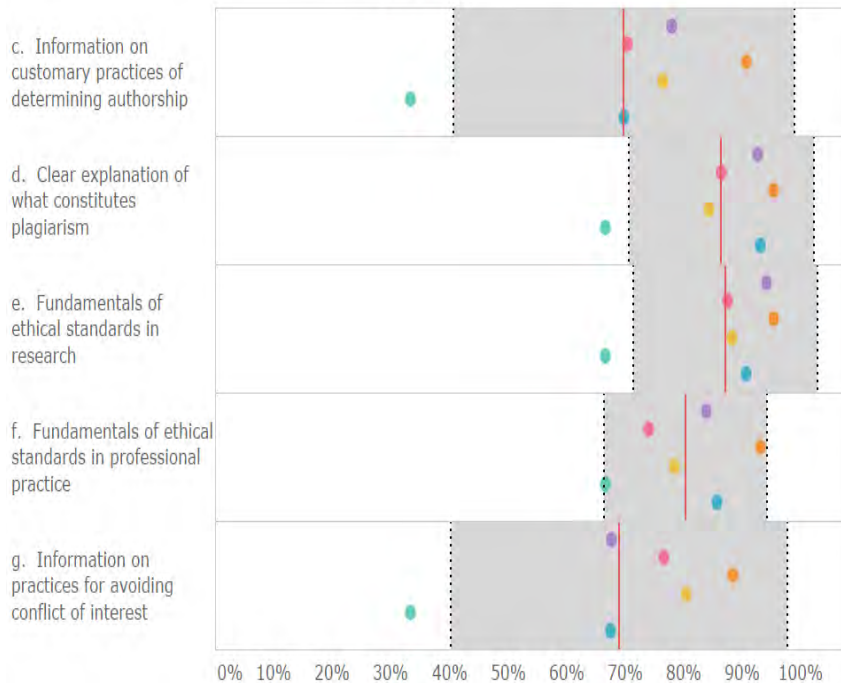


Fall 2017 implementation of gradSERU survey—doctoral students

All doctoral students

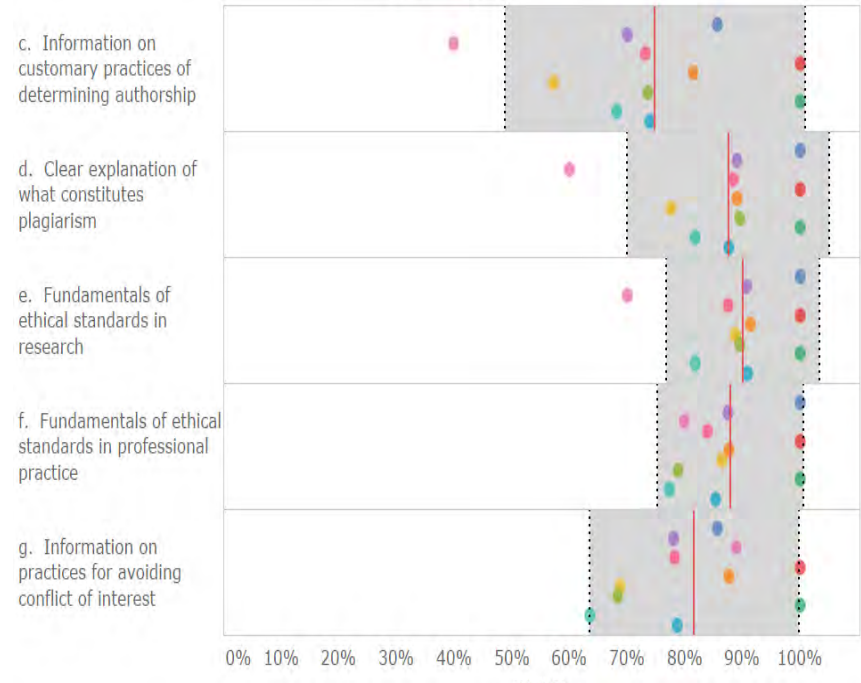
dissertators

Percent that responded 'well', 'very well' or 'extremely well' to the prompt
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course-takers

Percent that responded 'well', 'very well' or 'extremely well' to the prompt
 "How well has your current graduate/professional program provided you with the following?"



Continuing Challenges

- Ethical *practice* vs. compliance
- Everyone has to be involved—ownership
- Conversation needs to be ongoing
- Regular assessment to document outcomes and to establish accountability



Sources for Case Studies

[ORI RCR Casebook: Stories Worth Discussing \(with instructor's manual\)](#)

[NIH Annual Review of Ethics: Case Studies](#)

[Ethics Education Library : Case Studies in Sciences, Engineering, Social Sciences and Business](#)

[Center for Clinical and Research Ethics: Research Ethics Case Studies](#)

