



Responsible Conduct of Research Training at CSU 2009

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Research Integrity & Compliance Review Office

Office of the Vice President for Research

Institutional Ethics

“We at CSU are committed to maximizing the ethical dimensions of what research and scholarship we conduct, as well as the scientific dimensions.”

- Dr. Bernard Rollin, University Bioethicist

Ten core areas of RCR Training

1. Research with Human Subjects
2. Research with Animal Subjects
3. Research Misconduct
4. Data Acquisition, Management, Sharing & Ownership
5. Mentor/Trainee Responsibilities
6. Publication Practices and Responsible Authorship
7. Peer Review
8. Collaborative Science
9. Conflicts of Interest and Commitment
10. Social Responsibility

Teaching the Core Areas at CSU

- Existing RCR courses
 - PHIL 666: Science and Ethics
 - BC 601: Responsible Conduct in Biochemistry
 - BMS 610: Managing a Career in Science
 - MIP 654: Research Policies and Regulations
 - CHEM 580: Responsible Conduct in Chemistry Research
- Existing Graduate Seminars
- Specialized Training Venues (RICRO)
- Mentoring (apprenticeship)

1. Research with Human Subjects

- IRB (Institutional Review Board) approves research
- Training is mandatory prior to IRB approval of a research protocol
- Department Heads can refer new faculty to RICRO if they think it is likely that they will use human subjects (survey research)
- Consider inviting RICRO to new graduate student orientations in your department

2. Research with Animal Subjects

- The University Veterinarian, LAR and RICRO provide training on various aspects of the Animal Care Program
 - Orientation to the ACP (UV)
 - How to write a protocol (RICRO)
 - Procedure-specific animal training (LAR)
- IACUC approves animal research protocols
- Department Heads can refer new faculty to RICRO, UV or LAR for training prior to initiating work with animals
- The purchase of non-LAR animals is regulated (SciQuest subcode)

3. Research Misconduct

1. Fabrication, falsification, plagiarism, or other **practices that seriously deviate** from those that are commonly accepted within the relevant scientific/academic community **for proposing, conducting, reviewing or reporting** research; that
 2. Has been committed intentionally, knowingly or **recklessly**; and, that
 3. Has been proven by a preponderance of the evidence (more likely than not)
- Misconduct does not include honest **error** or honest differences in **interpretations** or judgments of data.

Who is covered by the CSU policy?

All members of the CSU academic community, including academic faculty, students, administrative-professionals, state classified personnel, and postdoctoral trainees; can report or be named a respondent.

Situations involving graduate and undergraduate students as respondents would be covered by this policy *only to the extent that federal funds are involved* and the sponsor of those funds requires procedures which the VPR does not deem to be met by existing campus procedures for dealing with student misconduct (e.g., Academic Dishonesty proceedings).

Research Misconduct Process

- **Complainant(s)** produce **Allegation(s)** against a **Respondent(s)**
- That allegation is reported to the **Dean**, who performs a **Pre-Inquiry** review for jurisdiction and credibility
- The **RIO**, in consultation with the Dean, initiates an **Inquiry**
- A convened **Inquiry** committee recommends to the **VPR** that they think an Investigation is warranted
- If the VPR concurs, the RIO convenes an **Investigation** committee, whose final report goes to the VPR
- Appeals of the findings of the final report go to the **Provost**
- A finding of misconduct is reported to **ORI**; the RIO then works with the Dean regarding any sanctions (may involve AP manual)

4. Data Acquisition & Ownership

■ Topics

- Data Collection and Recordkeeping
- Analysis and Selection of Data
- Data Sharing (Within CSU and external to CSU)
- Data Ownership (the institution)
- Data Retention: What, how, and for how long?

■ Principles

- Data provide the factual basis for scientific work
- Integrity of the data is a shared responsibility
- Quality of data collection depends on thoughtful planning
- Selection and analysis of data should be specified
- Data should be shared

5. Mentoring

- **Effective mentoring is essential**
 - Although mentoring alone may be insufficient, mentoring is essential to promote a positive attitude and understanding of the responsible conduct of research.
- **Mentoring is a shared professional responsibility of all scientists**
 - The enterprise of science depends on effective communication about the practice of science, standards of conduct, and ethical and social responsibility. Taking an active role in helping to train the next generation of scientists should not be optional.

6. Authorship

- Topics: Advisors need to be explicit (contracts?) about -
 - Credit
 - Responsibility
 - Discipline-specific criteria
 - Acknowledgements rather than authorship
- ICMJE Guidelines (2006) for authorship
 - made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;
 - drafted the article or revised it critically for important intellectual content;
and
 - approved of the final version to be published.
- Contributorship (noted within publication)

7. Peer Review

- Guidelines are set by professional organizations and editorial boards; their violation can be MiS
- Principles
 - Provide a timely response
 - Ensure competence
 - Avoid bias
 - Maintain confidentiality
 - Avoid unfair advantage
 - Offer constructive criticism

8. Collaborative Science

- Guidelines are set by professional organizations and editorial boards; their violation can be MiS
- Topics
 - Cultural communication barriers
 - Disciplinary communication barriers
 - Individual communication barriers
 - Risks of collaborations
 - Communication of expectations

9. COI

- Financial COI (FCOI)
 - NIH Guide Vol 24 (1995): “Objectivity in Research”
 - NIH Pilot Compliance Program (10/2007)
 - NIH NOT-OD-08-063: FAQs
 - NOT-OD-09-001: “NIH reporting of FCOI through eRA Commons” (10/2008)
- Professional COI: Career advancement
- Disclosure and Management

10. Social Responsibility

- Scientists should make efforts to ensure the scholarship is not misused and does not become a tool for abuse
- Policies to prohibit discrimination and harassment in research settings
- Environmental responsibility?

Other Areas of RCR Training

- Biosecurity – Dual Use Research (RICRO + BSO)
- Whistleblowing
- Social Responsibility of Scientists
- Computer Use
- Stem Cell Research

Case Studies

- Human Subject
- Plagiarism

Plagiarism Case Study

- Two elements
 - Attribution
 - › Attribute specific idea or words to another
 - Documentation
 - › Site the source of the idea or words

Plagiarism Case Study

- ACTUAL TEXT:

What is indicated here is an opposition that is fundamental in biography texts: that there is an inside and an outside to a person, that these are separate, but that one may be understood to have a crucial influence on the other. The opening to *Biography* concentrates almost obsessively on Beyonce's clothes because it is her clothes that allow us insight into her character.

Plagiarism Case Study

- Student Essay:

One can see the opening to *Biography* concentrates almost obsessively on Beyonce's clothes because it is her clothes that allow us insight into her character.

References

B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

Plagiarism Case Study

- Student Essay:

One can see the opening to *Biography* concentrates almost obsessively on Beyonce's clothes because it is her clothes that allow us insight into her character.

References

B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

Word for word plagiarism, no attribution and insufficient documentation.

Plagiarism Case Study

- Student Essay:

One can see the opening to *Biography* concentrates almost obsessively on Beyonce's clothes because it is her clothes that allow us insight into her character (1).

References

1. B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

Plagiarism Case Study

- Student Essay:

One can see the opening to *Biography* concentrates almost obsessively on Beyonce's clothes because it is her clothes that allow us insight into her character.

References

1. B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

Word for word plagiarism, documented but not attributed.

Plagiarism Case Study

- Student Essay:

Biography texts give us **insight into characters** through their appearance. The opening paragraph of *Biography*, for example, **concentrates on the clothes worn by Beyonce** (1).

References

1. B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

Plagiarism Case Study

- Student Essay:

Biography texts give us **insight into characters** through their appearance. The opening paragraph of Biography, for example, **concentrates on the clothes worn by Beyonce** (1).

References

1. B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

Piecemeal or near-verbatim plagiarism; documented by not attributed.

Plagiarism Case Study

- Student Essay:

Biographies depend on an opposition between the interior and exterior person, as we can see by glancing at the first paragraph of *Biography*.

Is this plagiarism? If so, why?

Plagiarism Case Study

- Student Essay:

Biographies depend on an opposition between the interior and exterior person, as we can see by glancing at the first paragraph of a biography.

Is this plagiarism? If so, why?

Paraphrase plagiarism; neither attributed nor documented.

Plagiarism Case Study

- Student Essay:

Knowles argues that biography depends on an opposition between the interior and exterior person, and she demonstrates that point in *Biography* (1).

References

1. B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

Plagiarism Case Study

- Student Essay:

Knowles argues that biography depends on an opposition between the interior and exterior person, and she demonstrates that point in *Biography* (1).

References

1. B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

No plagiarism; fully attributed and documented.

Plagiarism Case Study

- Student Essay:

The opening paragraph of Biography, for example, focuses “obsessively on Beyonce’s clothes because it is her clothes that allow us insight into her character” (1).

References

1. B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

Plagiarism Case Study

- Student Essay:

The opening paragraph of *Biography*, for example, focuses ‘obsessively on Beyonce’s clothes because it is her clothes that allow us insight into her character’ (1).

References

1. B. Knowles, *Biography*, 2nd ed. New York Press. 2008

Is this plagiarism? If so, why?

No plagiarism; fully attributed and documented.

Plagiarism Case Study

- “Common knowledge” does not need to be attributed/documentated (*grey area*)
- Definition of plagiarism is not static (*grey area*)
 - Definition changes across time and space
 - At least 11 different definitions used on CSU campus
- Find help:
 - CSU Writing Center
 - › <http://writing.colostate.edu>
 - Peers/Faculty
 - › Prof. Sarah Sloane in English Department

Responsible Conduct of Research (RCR)

- **EXAMPLE:**

- human subject research ethics
- borrowed from ORI (Office of Research Integrity) s
 - › <http://ori.dhhs.gov/>

Responsible Conduct of Research (RCR)

- EXAMPLE: Human Subject Research ethics
- What should Pam Do?

Responsible Conduct of Research (RCR)

- EXAMPLE: Human Subject Research ethics
- What should Pam Do?
 - Research information should be used only as participants agree to

Responsible Conduct of Research (RCR)

- **EXAMPLE:** Human Subject Research ethics
- What should Pam Do?
 - Research information should be used only as participants agree to
 - Jane told her friends that the man was in the study, she revealed confidential information

Responsible Conduct of Research (RCR)

- **EXAMPLE:** Human Subject Research ethics
- What should Pam Do?
 - Research information should be used only as participants agree to
 - Jane told her friends that the man was in the study, she revealed confidential information
 - Confidentiality is forever, the fact that the study is over doesn't matter

Resources

- <http://web.research.colostate.edu/rcr/>
- http://ori.dhhs.gov/publications/ori_intro_text.shtml
- http://ori.dhhs.gov/education/products/rcr_general.shtml
- <http://www.nap.edu/openbook.php?isbn=0309047315>
- <http://www.icmje.org/>
- <http://research-ethics.net>
- <http://www.aaas.org/spp/video/>

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