Elements of Research Misconduct

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This material is based upon work supported by the National Science Foundation under Grant No. 1033002
PatTium Chiranjeevi (2008)
Bengu Sezen (2010)
SAmim Anghaie (2011)
Academic Misconduct cases at UF over the past 3 years

Plagiarism:

1. Copying without attribution (stealing)
2. Cut-and-paste / patchwriting
3. Misquoting
4. Self-plagiarizing
5. Insufficient paraphrasing
Students who “cut and paste” from either print or electronic sources at least once in the last three years

• Turning in copied material as their own work
• Fabricating or falsifying a bibliography
• Turning in work done by someone else.
Prior Work in UF Libraries

- Faculty demand
  - Previous copyright & fair use instruction by Michelle Leonard
- Regular part of Library Instruction
- Remediation tool

- Other librarians found opportunity to develop further, applied for grant from the NSF Ethics Education in Science and Engineering division
NSF Grant Proposal: “Gaming Against Plagiarism”

• Gaming Against Plagiarism – led by Associate University Librarian Michelle Leonard as PI, team includes librarians and game designers
• Online, self-directed, interactive game providing a role-adapting environment in which Science, Technology, Engineering, and Mathematics (STEM) graduate students learn to recognize and avoid plagiarism
• Awarded full amount ($298,000) for 2 years
• Team Organization:
  – Content Development
  – Game Development
  – Assessment: (a) content (b) usability
Goals & Objectives

• Influence ethical behavior
• Impact of peer behavior, institutional norms, and cultural practices on plagiarism
• Awareness of falsification & fabrication of data
• Satisfy America COMPETES Act, Section 7009
• “Be collaboratively designed, tested, and evaluated through a multi-disciplinary iterative development process by recognized experts in graduate science education, gaming, academic integrity, and educational digital media production”
• Open source – allow each institution to customize to its own code of conduct, policies, and branding but maintain common focus on what constitutes responsible conduct of research
Why Gaming?

- Universal among college-aged students
- Teenagers: game playing is universal and can facilitate social discussions and “can incorporate many aspects of civic and political life” (Lenhart et al., 2008)
- Similar real life scenarios were used by Lloyd and van de Poel (2008) to create a collaborative design game with engineering students “to give students ‘practical’ experience of ethical decision-making in the process of design
Project Phases

Phase 1: Content
- Gaming Pedagogy
- Content Development and Evaluation
  - Game Play
  - Art
  - Software
  - Design Team
  - Graphics Team
  - Program Team
  - Create Prototypes (Iterative)
  - User testing/evaluation (iterative)
  - Beta Game

Phase 2: Design
- Game Development
- NSF funded students (I cubed, other programs)
- UF College of Engineering
- University of Central Florida
- Purdue University
- Virginia Commonwealth University
- University of Houston
- Loyola Marymount
- Oakland University
- Rowan University

Phase 3: User Testing
- Final Product Development
- Final Product

Phase 4: Implementation
- Beta test data (from Phase 4)

Phase 5: Evaluation
- April 2012 - August 2012

Credit: Margeaux Johnson, GAP Co-PI
Environmental Scan (Phase 1)

- Focus Groups
- STEM Grad Student Survey – “Perceptions of Plagiarism”
  - Students perceptions of the amount and severity of plagiarism on campus, workload appropriateness, and faculty practices
STEM Grad Student Survey
“Perceptions of Plagiarism”

The Good News...

- **Amount of work is reasonable for year & program**
- **Assignment difficulty appropriate for year & program**
- **Assessments effective at helping learn concepts**
STEM Grad Student Survey
“Perceptions of Plagiarism”

The **Bad** News...

- **Agree**
- **Not Sure**
- **Disagree**

- Plagiarism is a serious problem
- Faculty change assignments regularly
- Vigilance in discovering & reporting incidents
- Investigation is fair & impartial
Project Phases
Inclusion of Broader Ethics

Table 6

<table>
<thead>
<tr>
<th>Cheating on Other Assignments*</th>
<th>Undergraduates</th>
<th>Grad Students</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabricating or falsifying lab data</td>
<td>19%</td>
<td>7%</td>
<td>21%</td>
</tr>
<tr>
<td>Copying someone else’s program in a course requiring computer work</td>
<td>11%</td>
<td>7%</td>
<td>39%</td>
</tr>
<tr>
<td>Fabricating or falsifying research data</td>
<td>8%</td>
<td>4%</td>
<td>21%</td>
</tr>
</tbody>
</table>

“And if undergraduates majoring in science are isolated, 31% report falsifying laboratory data.”

- America COMPETES Act – UF Certification for RCR
- Faculty have different needs from grad students – how do they *do* research?
Promoting Responsible Conduct in Research

- Sponsor an ethics workshop on campus – Fall 2011
- Develop a workshop and research guide on ethics and responsible conduct in research

http://guides.uflib.ufl.edu/stemrcr
Take Home Message

- Plagiarism and research misconduct are widespread
- Librarians as ethics watchdogs
  - Raise profile on campus
  - Contribute to academic integrity, university policies
- Subject-specific knowledge may be useful to identify different types of misconduct across different fields
- Contribute to open-source community
- Started as a game – life of its own now (research guide, ethics symposium)
Credits

• PI: Michelle Leonard
• Co-PIs: Margeaux Johnson, Amy Buhler, James Oliverio, Dr. Ben deVane
• Team: Denise Bennett, Dr. Rick Ferdig, Dr. Don McCabe, Melody Royster, Dr. Donna Wrublewski
• GAP Blog: http://blogs.uflib.ufl.edu/gap
• Responsible Conduct of STEM Research Guide: http://guides.uflib.ufl.edu/stemrcr