Postdoc & Graduate Academic Chat

Special Zoom Discussion

Ethical Issues in Your Teaching and Research

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READINGS

1. How to be Fair and Ethical in the Classroom

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Graduate Connections

Many aspects of the teaching assistant's role may create ethical dilemmas of one sort or another. Your roles as adviser, evaluator, exam administrator, authority figure and peer have the potential to become problematic at times, often because they present conflicting demands. Because fairness is a perception based on interpretations of behavior, not intentions, many instructors may inadvertently engage in what students perceive to be unfair behavior.

Although one might expect students to be most concerned with outcome or procedural fairness because it affects their grades, Dr. Rita Rodabaugh has found that students consider violations of interactional fairness to be the most severe. Interactional fairness refers to the nature of the interaction

between instructor and students and encompasses impartiality, respect, concern for students, integrity and propriety.

Below we offer tips on how to be fair and ethical in the classroom, thereby avoiding as many classroom problems as possible.

Impartiality. Students expect an instructor to treat everyone in the class equally. Few professors intentionally favor certain students over others, but it is probably impossible not to like some students more than others. Differences in liking may foster differences in interactions, such as allowing certain students to dominate discussions. Even subtle differences in how students are treated may lead to perceptions of partiality where none exist. To avoid giving the impression of partiality, carefully monitor your behavior and interactions with all students.

Respect. Respect involves treating students politely. Ridiculing a student or calling a student's comment “stupid” is inappropriate in all circumstances. Students expect an instructor to listen to, carefully consider, and give thoughtful replies to their ideas when they challenge the instructor’s views. An instructor who is perceived as impatient or demeaning, either directly through comments or indirectly through tone of voice, facial expressions, or posture, loses students' respect.

Patience is especially difficult when students actively misbehave in class. However, students also expect instructors to be polite in those situations. Should you face disrespect, try to remain civil and calm, thereby modeling the appropriate behavior for students. It is always appropriate to meet privately with an offending student, during which you can be more direct in communicating expectations for classroom deportment.

Concern for students. Students expect their instructors to care about them and their academic performance. You can demonstrate such concern by learning and using students' names, talking to them before and after class, carefully answering questions, and inviting students who appear to be having problems with the course to discuss those problems and potential solutions. You also can express concern by giving due consideration to student complaints, taking remedial action when the complaints are valid, and carefully explaining your position when the complaints are not valid.

Integrity. Integrity means being consistent and truthful, and explaining your policies, procedures and decisions and why they are necessary, so that their

fairness can be judged and understood. For example, an attendance policy may be justifiable because attendance is correlated with increased learning and better grades. Explaining the educational goals of various types of assignments also can be effective. You also can demonstrate integrity by delivering promised rewards and penalties, and admitting ignorance when appropriate.

Propriety. Propriety means acting in a socially acceptable manner that does not offend students' sensibilities. Students expect you to follow the rules when interacting with them, even if you believe there might be pedagogical value in breaking them. For example, research indicates that most students find it inappropriate in most or all circumstances for an instructor to tell an off-color story or joke. Likewise, showing an emotionally upsetting film without warning students in advance was considered highly inappropriate.

Students also expect instructors to respect their privacy; most students find it inappropriate to require them to reveal highly personal information in a class discussion. Finally, students expect instructors to maintain an appropriate social distance: 54% of students surveyed in a 1993 study by Patricia KeithSpiegel and colleagues thought it inappropriate for an instructor to date a student and 70% believed it inappropriate for a professor to have a sexual relationship with a student.

Conclusion. Ethical issues are often seen in terms of outright abuse of power or privilege. However, where fairness is concerned, many behaviors that teachers may unthinkingly exhibit on a day-to-day basis, such as sharing personal information about their weekend “activities” or making changes in course content and procedures during the semester, may be perceived quite differently by students. According to Stephen Brookfield, author ofThe Skillful Teacher, perceptions of unfairness can undermine the trust between student and teacher that is necessary for effective learning. It’s important to carefully monitor one's behavior and policies to ensure that they are not only, in fact, fair but are perceived as fair by students.

Adapted with permission from Whitley, Jr., B., Perkins, D., Balogh, D., Keith-Spiegel, P. & Wittig, A. (2000, July/August). Fairness in the classroom. APS Observer, 13 (6).http://www.psychologicalscience.org/teaching/tips/tips_0700.html.

2. Scientific Fraud, Not New, Not Rare, but also Not Common

The posting below looks at issues regarding scientific fraud. It is by Amy Adams on a speech given by Donald Kennedy, editor-in-chief of Science and president emeritus of Stanford University. It appeared in the January 25, 2006 issue of the Stanford Report. http://news-service.stanford.edu/news/medical/index.html

Donald Kennedy, editor-in-chief of Science, explains in a Jan. 20 lecture why research fraud is so hard to detect. The journal recently learned that it had published faked stem cell findings.

No journal has an infallible mechanism for detecting scientific fraud, according to Science editor-in-chief and Stanford University president, emeritus, Donald Kennedy, PhD. "Scientific fraud is not new and is not rare," he said during his talk at a stem cell symposium held Jan. 20. "Luckily it's not common either."

The remarks were prompted by Science's recent decision to retract two papers it had published from South Korean researcher Hwang Woo Suk after the data in them was found to be fabricated. In the first, which appeared in the magazine in 2004, the scientist and coauthors claimed to have cloned a human embryo and extracted stem cells. In the second, which ran last year, Hwang and his colleagues reported that they had honed the technique so that it would require fewer human eggs to produce a line of stem cells. These advances, if true, would have laid the groundwork for making genetically matched stem cells for human therapies.

The symposium, "Beyond the Embryo," was hosted by the Stanford Center for Biomedical Ethics' Program on Stem Cells and Society with the intention of reviewing some of the ethical and societal issues raised by both embryonic and adult stem cell research.

On Jan. 10, Science released a statement from Kennedy explaining that the journal would evaluate how the papers were reviewed and seek new ways to improve its procedures.

In the symposium's opening address, Kennedy elaborated on his initial statement by discussing the questions he's been asked over the past few weeks. The most prevalent one from journalists and the public was whether Science editors had any forewarning of the misconduct.

"We couldn't find anything," Kennedy said. None of the scientists who reviewed the papers raised questions and no journalist working for Science spoke with sources who suggested fraud. He said he expects in the future many people will come forward saying that they knew it all along, but none of those people spoke up in advance of the scandal.

If the journal didn't see the fraud coming, Kennedy said he is often asked whether this means the review process is flawed. He remains confident that it is not. "I don't think any reviewer could detect fraud if it was carried out by a capable scientist who knows how to walk the walk," he said.

Particularly in a journal such as Science, which sets a high bar for publishing only major scientific advancements, reviewers often have no way of assessing experiments that have never before been carried out. Instead, they must rely on authors to provide accurate data to support their conclusions. Kennedy said that most researchers do provide accurate data and those who don't are eventually discovered when colleagues aren't able to replicate the work.

Another question Kennedy said he is frequently asked is one that is not of interest to Science- that's the question of which of the many authors were involved in perpetrating the fraud. He added that some journals are considering requiring all authors on a paper to report what role they played in the research. He said that might eliminate some authors who are on the paper for political reasons but who didn't contribute to the research.

In the wake of the revelations about the stem cell findings, people have questioned, in particular, the role of one senior author on the 2005 retracted paper, Gerald Schatten, PhD, of the University of Pittsburgh, as he was not based in South Korea where the experiments were allegedly being conducted. In response to a comment from the audience, Kennedy said he

thought this author did, in fact, deserve to be on the paper. However, he thought that requiring a written notice of

participation might increase an author's accountability and therefore decrease the chance of fraud.

Moving forward, Kennedy said he didn't think the scandal would have fallout for

researchers trying to treat disease using stem cells. "I think people will work as hard as ever to achieve their goals," he said. He does have concerns that some politicians may turn the scandal into ammunition against the entire field. If they do, it could result in less funding or tighter restrictions on future stem cell work.

"I hope devoutly that does not happen," he said.

Although the South Korean episode is the most prominent case of scientific fraud in recent years, Kennedy said that he doesn't think the field is any more prone to such incidents than any other areas of research. He said journals, including Science, should do what they can to look out for and prevent fraud in all areas of science to maintain the public trust.

Kennedy's lecture led off an afternoon of talks by scholars from Stanford and elsewhere. Topics included the ethics of egg donation, the realities of cord blood banking, the creation of chimeric animals and differences in stem cell policy between the United States and other countries.

3. Ethically Problematic Behaviors in Science

All of us want to follow the highest ethical standards in our roles as professors, and in most instances doing so is not be a problem. Yet, there are times, particularly in our teaching and research, when knowing and d oing the "right things" are not as simple as they sound. In such situations, it is helpful if we can share out experiences in making the "right calls" when confronted with ethically problematic situations.

Robert E. McGinn has taught a number of courses on technology and society and on ethical issues in science and engineering at Stanford University. He

has generated a list (see below) of fifteen "ethically problematic behaviors in science," The list focuses on research related conduct and as you can see, with the exception of a few items (#1, #2, #5 and #8 for example), these situations are not simple black and white matters with easily prescribed courses of action. Here is the list:

Ethically Problematic Behaviors in Science,"

1. falsifying (e.g., "cooking" or "trimming") data obtained from a genuine experiment; 2. fabricating experiments to "obtain" or "generate" data;
3. misrepresentation in funding requests (e.g., hyperbole regarding previous accomplishments or future value of research);

4. giving undue credit or failing to give due credit to someone regarding authorship of research work;

5. deliberately misleading research competitors to "throw them off the trail" in order to improve one's chances of "getting there first";

6. failure to secure bona fide "informed consent" from experimental subjects (for example the Tuskeegee experiment involving subjects with syphilis, or recent Department of Energy revelations regarding testing of civilians with radioactive substances);

7. failure to take steps to insure "fair play" in one's laboratory (e.g., discrimination against or sabotage of the work by one or another party or group);
8. plagiarism;
9. demeaning a competitor's work to boost one's own;

10. allowing one's research findings to be used in a misleading or potentially harmful way for personal or group political or economic gain;
11. publishing one's work in LPUs (Least Publishable Units) to increase the number of one's publications;

12. failure to "blow the whistle" on someone whose work is known to be defective where failure to do so may endanger the public interest or put a private party at risk of incurring unjustifiable harm;
13. failure to conduct a fair-minded and scrupulous review of a scientific paper for which one is a referee;

14. providing a biased or facile evaluation of a proposal for research funding for which one is a reviewer, and
15. influencing scientific research projects of one's subordinates (e.g., graduate students) in order to advance research in which one has a vested economic interest (e.g., because of owning stock in a company which stands to benefit from the skewed research).

The first step in avoiding many of these behaviors is to acknowledge there existence and by so doing bring them out into the open for discussion. In discussing these matters it helps to be aware of the pressures leading so me faculty, in spite of their best intentions to the contrary, to engage in such conduct. McGinn has looked at this issue in some detail and has postulated a dozen "factors conducive to misconduct in contemporary science."

They are:

1. the institutionalization of contemporary science (with all that this implies regarding the indispensability of obtaining substantial, ongoing funding);
2. the concept of an obsession with "success" in U.S. society, something which translates into great value being placed on obtaining desired results and which tends to devalue the importance and integrity of the process by which the results are obtained;

3. the difficulties that stand in the way of replicating previous experiments (e.g.,difficulty of obtaining funding to replicate someone else's experiment);
4. the time that must be spent writing and marketing proposals to obtain funding for one's

laboratory or institution, resulting in less time being available for transmitting "integrity values" to one's studen ts "at the bench";

5. fear of being hit with a lawsuit if one blows the whistle on a colleague or superior; 6. fear of ostracism by colleagues if one blows the whistle;
7. the highly competitive nature of contemporary science regarding obtaining funding, being first in print, and obtaining one's own laboratory or a coveted endowed chair;

8. the high prestige attached by institutions and departments to having colleagues who publish prolifically and the related reward system;
9. the unprecedented degree of specialization in contemporary science

(resulting in the prevalence of "a vulgar quantitative mentality" regarding publications);

10. the huge (about 40,000) number of scientific journals extant (resulting in the

publication of much work of dubious scientific value and the difficulty of detecting fraud); 11. the lack of will and absence of an effective mechanism in science to root out fraud; and

12. the pressure on young scientists to obtain significant funding and publish a lot to get tenure.