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Who Framed Roger's Data?

Year

2000

Description

The case discusses proper supervision of students, proper review of data and conclusions, ownership of data, and honesty in reporting.

Body

Roger, a well-respected graduate student, defended his dissertation early in the spring semester. His work was quite well received, and Roger was commended for his synthesis abilities, since his dissertation results and conclusions did not entirely agree with the established framework of the phenomenon he was studying. Roger was planning to stay on in the lab in order to apply for post-doctoral positions, complete some projects, finish writing the manuscripts from the dissertation to be submitted for publication, and to help train a junior graduate student and other students choosing to do a rotation through the lab.

Roger's guidance was essential for the continuation of research in the lab utilizing histochemistry, as he was the person who had originally learned the techniques and brought them into the lab. His adviser, Dr. Hare, was quite pleased with the initiative and determination that Roger had shown during the early period of his dissertation research when he was learning the histochemical techniques piecemeal from other labs. It was difficult for Roger, and his adviser and committee could offer little guidance as they were only minimally familiar with the techniques and knew nearly nothing of the technical details. Roger struggled for over two years with the

techniques and their application to his model system before he started producing results. Once the results started coming, however, they came quickly. Roger and Hare were very pleased with the data, but neither Roger's adviser nor his committee examined many of the details.

A few weeks after Roger had defended, Jessica (a first-year graduate student) began an eight-week rotation through the lab. Hare had outlined for Jessica and Roger, who would be overseeing her work, a few possible projects that might give her a feel for the techniques and topics in the lab. Roger and Jessica agreed that she should start on a project that had branched out from Roger's dissertation. She would be using histochemical techniques that Roger had brought to the lab as well as some others that the lab been using quite expertly for some time, but that Roger was unable to use in his dissertation research for various reasons. Jessica was excited about the bigger picture of the research that Roger had explained to her.

Discussion Questions

1. Has the story so far provided only background, or have errors been made? For example, were there errors in judgment (by Roger, Hare, the committee), errors in scientific procedure, or perhaps errors in educational and oversight/guidance procedures?

After looking at the data from a set of preliminary experiments, Jessica brought her results to Roger. Roger questioned Jessica intently about the methods she used in the experiments and asked to see some of the materials involved. Roger told Jessica that it appeared that she had done the experiment well, but that he was pretty sure something had gone wrong. He said that he would look into it and that, in the meantime, she should begin to put her efforts into one of the other projects they had discussed. Jessica agreed and thanked Roger for his time, guidance and concern.

Jessica was unaware that her data directly conflicted with the data that Roger had produced during his dissertation research in the previous year. After questioning Jessica and looking at the materials, Roger recognized this discrepancy and was slightly concerned. If Jessica was correct, then he would have to suspect his own data. Roger tried to keep in mind that Jessica was a novice and may have made some simple mistakes. However, she was using some techniques that may have given Roger different results had he been able to use them during his dissertation work. Roger decided not to acknowledge the conflict between the data sets.

Discussion Questions

2. Given the information at hand, is there anything wrong with Roger's decision?

Roger set up the experiments that he had told Jessica he would do to try to clarify her results and performed them himself. Much to his surprise, the experiments confirmed exactly what Jessica had originally brought to him. The results were in serious conflict with Roger's conclusions in his dissertation.

Over the next few weeks Roger helped Jessica with the other project she had begun. The original project was not discussed. Roger did not bring it up, and Jessica was busy with and excited about the new project, which was going quite well. She wanted to contribute something positive to the lab before she had to move to the next rotation.

Jessica's rotation concluded with a meeting with Hare and Roger. Hare told Jessica that both he and Roger felt that she had done an excellent job, had learned quite a bit and would therefore be receiving excellent marks for the rotation.

When Hare inquired about the reason for the mid-rotation change in projects, Roger interjected. He explained that Jessica had performed some experiments that indicated that those directions were likely to be fruitless and he had felt Jessica should use the techniques she had learned on a more promising venture. Hare thought that was a good idea and thanked Roger for his attention and guidance because this strategy probably saved the lab and Jessica a lot of time and energy tracking down an apparently When Hare inquired about the reason for the mid-rotation change in projects, Roger interjected. He explained that Jessica had performed some experiments that indicated that those directions were likely to be fruitless and he had felt Jessica should use the techniques she had learned on a more promising venture. Hare thought that was a good idea and thanked Roger for his attention and guidance because this strategy probably saved the lab and Jessica a lot of time and energy tracking down an apparently false lead.

Discussion Questions

3. What, if anything, is wrong with Roger's actions? With Hare's?

4. Did Jessica do anything wrong? Why or why not?

5. Did Roger, Hare or the committee make any errors in judgment, oversight or experimental procedure prior to Roger's confirming Jessica's results? If so, what were those errors, specifically?

6. What if Roger didn't get to the experiments immediately because he had to prepare for a trip where he was interviewing for a post-doctoral position? What if he presented and discussed his dissertation data during the interview?

7. What if Roger had done the experiments that brought his dissertation results into question *before* he went on his interview and had still presented and discussed his data? What responsibilities does he have to any institution hiring him?

8. As it is, Roger's work has not yet been published. How would the situation differ if he published a) before the conflict came to light? b) after he discovered the conflict? c) after the meeting at the conclusion of Jessica's rotation?

9. What if Hare had intended to include Jessica's original experiments with Roger's results for a publication?

Notes

Brian Schrag, ed., Research Ethics: Cases and Commentaries, Volume 4, Bloomington, Indiana: Association for Practical and Professional Ethics, 2000.

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Resource Type

Case Study / Scenario

Parent Collection

Graduate Research Ethics: Cases and Commentaries - Volume 4, 2000

Topics

Collaboration
Research Misconduct

Discipline(s)

Biochemistry
Life and Environmental Sciences
Research Ethics

Publisher

Association for Practical and Professional Ethics
Authoring Institution
Association for Practical and Professional Ethics (APPE)