

To Be or Not to Be Included

Upon entering the graduate program, Alyssa decided to start working in the laboratory of Dr. Harry Swift. She started on a project that consisted of administering and evaluating the effects of an anti-malarial agent using an animal model. Although six other graduate students were working in the laboratory (not doing rotations), none of them was involved with the project, other than occasionally assisting Alyssa with the animals. She presented her data at weekly laboratory meetings attended by all members of Swift's lab, including Swift.

Alyssa and Swift did not get along very well. Swift believed that although Alyssa was a hard worker, she required too much supervision and was not an independent thinker. Alyssa, on the other hand, believed that Swift expected too much from his students and failed to provide adequate direction. Therefore, after completing the project, which took approximately nine months, Alyssa decided to leave the lab and begin working in another laboratory in the same department. Alyssa's lab book remained in Swift's lab, and Swift told her that the work did not merit publication.

Approximately one year later, Alyssa learned that her data had been published. The paper did not list her as an author, but it did list the names of other graduate students who had worked in Swift's lab during Alyssa's tenure. Alyssa decided to bring this situation to the attention of the department chairman, who referred her to the Director of Student Affairs. The director formed a committee of senior faculty members from outside Alyssa's department to investigate the situation. When the committee questioned Swift about the exclusion of Alyssa as an author, he responded that Alyssa did the work but had not contributed intellectually to the project. Rather, she had functioned primarily as a technician.

Swift commented that he had had several discussions with Alyssa about her inability to add to the project, other than data collection, and she had made no effort to increase her input. The committee questioned Alyssa and reviewed her lab book. The other graduate students who had worked in Swift's laboratory were never questioned.

The committee decided that Alyssa was responsible for the data presented by Swift. They also concluded that she did not have a major input into the experimental design, nor did she carry out the statistical analysis of the data required for publication. The committee concluded that the decision to include Alyssa as an author was at Swift's discretion.

Discussion questions

1. Should Swift have notified Alyssa about the decision to publish the work?
2. Should Alyssa have been given an opportunity to analyze the data for publication?
3. Should Alyssa have approached Swift about the matter before approaching the department chair?
4. Should the committee have questioned more individuals associated with Swift (e.g., the other graduate students working in the lab who were listed as authors on the paper)?
5. Should the university have rules about acknowledging students' contributions to laboratories?
6. What criteria should determine authorship?
7. Did Swift fail in his responsibility to Alyssa as a graduate student adviser by allowing her to function solely as a technician?
8. Did Alyssa fail in her responsibility as a graduate student to contribute intellectually to the project rather than limiting her contribution to data collection?
9. Is it necessary for graduate programs to spell out the responsibilities of advisers and graduate students, or are they implicit?

Case Commentary

At first glance, this case appears to be about authorship. But it is really about the responsibilities of graduate students, graduate advisers, and graduate institutions.

We do not know Alyssa's scientific background and experience, why she decided to work in Swift's laboratory and what, if anything, she was told about the lab and what was expected of her. We do not know about Swift's relationship with the other six graduate students, his background or why he agreed to have Alyssa work in his lab. We are aware that Alyssa and Swift do not agree on what is expected of each of them in relation to the other.

Graduate students entering into a new program may not be aware of what it "means" to be graduate students. They may have no idea what is expected of them. In some cases students may not even have laboratory experience. If we assume that that was the case with Alyssa, who was responsible for making sure Alyssa knows what is required of her as a graduate student in Swift's laboratory?

In the graduate school setting, it is too often assumed that a Ph.D. confers the ability to teach and train students. Although some institutions do train their faculty to be effective instructors, some do not; contrary to popular belief, there is no universal "scientific method" that all research groups follow. Research groups vary greatly due to discipline, institution, department and especially the personality of research group director. (1)

Let's assume that Swift was never trained to teach. Therefore, it is possible that Alyssa was aware of her responsibilities but was not being trained effectively to accomplish the goals set out for her.

Several institutions have developed their own graduate student bill of rights and responsibilities, and some have included the faculty's responsibilities to the students. Many of these are accessible via the Internet. (2, 3) Although these guidelines cannot change an individual's work ethic or ability to learn or train, they do define roles and the responsibilities that come with them, thereby eliminating an element of confusion from an inherently stressful environment.

Due to the decentralized nature of research, it is essential that graduate institutions have rules and regulation that clearly define the roles and responsibilities of graduate students and advisers. Without these guidelines, it is not safe to assume that all students in an institution are being trained effectively and comparably. They should also outline the responsibilities each has to each other, the laboratory, the institution and the scientific community. The institution should also make available the resources needed to accomplish these goals. Once a student enters a laboratory, the institution does not relinquish its responsibility for that student's education to the principal investigator; rather, the responsibility is now shared.

Commentary on “To Be or Not to be Included”
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Assignment of authorship for published research is an extremely intricate matter, as this case illustrates, and it is also a highly contentious matter. No doubt this contentiousness is correlated with the high stakes associated with authorship since published research plays such a pivotal role in the careers of scientists.

The commentary suggests, however, that authorship of published research is not all that is at issue in this case. The case points to broader issues in graduate education.

An outside observer viewing the case first from Alyssa’s perspective and then from Swift’s perspective might be most surprised by the differences in the expectations of each. They each have different expectations regarding authorship and credit, what is supposed to happen in the lab, the role of a professor in the training of students, and so on. The fact that the two have such different expectations illustrates a highly problematic condition of graduate education. The norms for professors and graduate students are poorly articulated, rarely explicitly promulgated, and therefore, poorly understood. The situation is ripe for misunderstanding. In the absence of clear norms, intentionally transmitted to students and modeled in practice, students and faculty develop a variety of diverse, ad hoc, variable expressions.

It is easy here to suppose that the student, Alyssa, was some sort of dunce and simply had not picked up on the prevailing norm for authorship – that lab work alone does not justify authorship, that one must make an intellectual contribution. Or perhaps she was just unable to contribute to the project intellectually. Such a response is much too easy. For one thing, there are hints that Swift uses the norm inconsistently. Why has he included other students from the lab? Did these students contribute intellectually, or did they earn authorship simply by being members of the lab? Further, the investigative committee concludes that the decision is at Swift’s discretion: He could include Alyssa as co-author if he chose. The norm is not definitive; sometimes lab work is sufficient to justify authorship, and sometimes not.

While we can understand that attributions of authorship are complex and intricate such that they must, to some extent, be left to the discretion of the faculty member, that does not mean that faculty can assign authorship arbitrarily or at whim. The discretion allowed faculty members correlates with obligations, and faculty members are accountable for how they use this discretion. They are obligated to tell students what to expect and to make decisions as fairly and consistently as possible.

Since attribution of authorship is an intricate matter and often a matter of faculty discretion, the potential for mistreatment of students and abuse of power is great. That makes it extremely important for faculty members to provide students with guidelines.

Norms with regard to attribution of authorship are illustrative of a broader problem in graduate education. In general, norms are now well articulated or explicitly communicated. This problem leads to a wide variety of expectations among faculty and graduate students, so much so that it is not uncommon for graduate students to experience shock and disappointment in the first years of their graduate training.