Stronger together

Lab heads should foster collaborative research, say Katherine D. Kinzler and Kristin Shutts.

Two of our PhD students were in a bind. They had collaborated on a research project that merged their interests and, as counselled by other faculty members, had decided early in the research process on authorship order. But by the end of the partnership, the designated second author felt that she had contributed more time and expertise to the project, and wanted to switch the authorship order. The would-be first author disagreed, pointing to their earlier arrangement. Disappointment, or worse, seemed the probable outcome.

This scenario might feel familiar to many principal investigators (PIs). At best, considering contribution and authorship order can be stressful for students and postdocs who collaborate; at worst, these issues can prevent alliances from developing at all. Yet, in our experience, as student collaborators ourselves and then as PIs, some of the best science — and the impetus for growth in junior researchers’ careers — comes from collaborative efforts between graduate students and/or postdocs. As PIs, we work to set the tone for joint science to flourish in our labs.

We began our own collaborative research as PhD students in the same lab at Harvard University in Cambridge, Massachusetts. Working together has produced positive outcomes for both of us — from developing more-advanced records for the job market (then) to receiving a multi-year federal grant from the US National Institutes of Health that we jointly administer (now). Most importantly, we’ve come to believe that the ideas we generate as a two-person team are better than what either of us would produce alone, and that the scientific process is more fun to conduct together.

Consequently, we were surprised to encounter push-back when we suggested in our own labs that students consider working together. So, we developed a model to foster collaboration.

Establish parameters. Recently, a new student in one of our labs wanted to collaborate with a postdoc, yet devoted significant attention to dissecting her role in the project and how much time she (compared with the postdoc) was spending on it. All this worry risked stagnating the science and ending the collaboration. We explained the benefits of this type of partnership, and pointed to how our own successes, as well as those of previous students, have been bolstered by sharing credit with other scientists.

Encourage students to make authorship decisions after they collect data. In our experience, determining authorship order later in the process puts the science (rather than the publication process) front and centre, and helps students to think of growing the total amount of research, rather than angling over whether they plan to contribute 49% or 51% of any given project.

Of course, we recognize that collaboration might not work for all student pairs. Collaborative relationships, in our experience, are most likely to flourish when junior researchers lead them. PIs should help students and postdocs understand the value and process of collaborative work. But junior scientists should initiate specific collaborative projects and decide together how to carry out the research.

“Let’s put the science ahead of ourselves,” agreed our two students deciding on authorship order. One was first author on the initial paper; at worst, these issues can prevent alliances from developing at all. Yet, in our experience, as student collaborators ourselves and then as PIs, some of the best science — and the impetus for growth in junior researchers’ careers — comes from collaborative efforts between graduate students and/or postdocs. As PIs, we work to set the tone for joint science to flourish in our labs.

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Eliminate a ‘zero-sum’ mindset. Collaboration can help to direct students to ‘growing the pie’ — creating more resources together that they can ultimately share. As graduate students, we developed a shared research programme that generated multiple studies and articles, so determining authorship was never stressful for us. We encouraged the students in the anecdote above to think about generating a pipeline of collaborative projects. By treating the project as the first step in an important, long-term programme, neither student felt as worried about the final authorship decision.

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