

Giving Writing Feedback: Faster, Better, EASIER

Key principles:

- Focus on *responding* to the *content* more than *correcting the language*.
- Think and communicate to the writer in terms of *stages* of drafting; don't try to deal with everything in one stage.
- The strategies below can be effective only if you are disciplined about setting early deadlines to review multiple iterations of the draft:
 - Set forth expectations when new trainees or students join your group. Consider providing written guidelines.
 - Make sure to be available for short meetings to provide verbal feedback on writing.
 - Compile resources: know about your institution's writing center, writing groups, and courses on writing; identify trainees in your lab who are excellent writers and can mentor others; be on the lookout for model writing pieces that reflect your disciplinary style and standards that you can discuss with trainees.

Stage 1: Responding to the *intellectual content*

1. Read the entire draft without marking anything. Then, respond first to the main ideas the trainee was presenting. Acknowledge the trainee's thinking or intention first. This does not necessarily mean praise or criticism, but at a minimum it means noticing and responding.
2. Then go through the major sections and address the writer's 'rhetorical moves', i.e., establishing the importance of the issue addressed, providing a gap in knowledge or a need in the scholarship, stating a clear and explicit purpose for the work described, stating a coherent scientific conclusion resulting from the work, limitations, implications, etc. Are all the important elements there?
3. If these items need extensive work, write a few comments about that. After the trainee has digested your written feedback, meet with the trainee in person for brief clarification and guidance.



Stage 2: Responding to the *writing*

1. After trainees have a good understanding of the direction of the paper, allow them to redraft.
2. On this draft, respond to organization, strengths and weaknesses of the argument or presentation of evidence, proportion of elements (e.g., introduction too long, discussion too short, insufficient description of methods), quality of integrating other sources, flow, etc. Making frequent references to “what readers expect to see next/here/when you discuss this/etc.” is helpful.
3. L2’s may need additional guidance on word choice, idioms, and complex grammar. See ‘Phrasebank’ etc. in the Resources section.
4. Wherever possible, attempt to give feedback in positive, directive terms (‘Try this’) rather than negative terms (‘This is wrong’).
5. Do not correct the mechanics. You can note errors in the margin, or use codes such as ‘sp’ for spelling, ‘gr’ for grammar, etc. But it’s the trainee’s job to figure out the correct usage. If they realize there is no alternative (i.e, that you’re not going to do it for them, and you’re not going to accept the paper until it’s correct), it will happen. By the way, it’s common for writers to find and correct their own typos or minor errors upon rewriting the draft even without having them marked.
6. Consider asking trainees to engage in peer review or get feedback from a third party as to readability, and tell them that you will look at the draft again after they have utilized that resource. These feedback providers could be other trainees in the lab, classmates of the student or trainee, scientific editors, writing center consultants, or others. NB: For novice (and not-so-novice) writers, *providing* feedback is as instructive as *receiving* feedback!



Helping Trainees Develop Scientific Communication Skills

General strategies

- Remember that generating, repeating, paraphrasing, and summarizing in any mode are valuable in overall development.
- *Acknowledgement matters.*
- Stay involved and responsive. Be supportive and approachable while making clear you expect excellence in scientific communication.

Set up the environment for success

- Set expectations and structure ahead of time. You could dedicate a lab meeting to explaining writing policies and procedures (including unintentional plagiarism, authorship, etc.). You could assign trainees to present parts of this.
- Identify a list of “pre”-editors. You can set up a list and provide it to trainees, or you can ask each trainee to find their own. The main point is to know who your pre-editors are ahead of time rather than trying to find someone at deadline. Encourage trainees to give the pre-editor a heads’-up as early as possible.
- Consider establishing a rule in your lab that every trainee manuscript must go through pre-edit before it comes to you.
- Consider writing retreats: ½ day, full day, whatever.
- Encourage students to write in some kind of social setting if they feel isolated when they write.
- Use peer editing service or campus writing clinic.
- Have regular talks with your trainee about their manuscript plan and what their role and author order on various manuscripts will be. This can be in the context of a general progress meeting.
- Make it clear that you will ask for regular updates on writing and presenting projects, and then follow through.
- Consider how to provide recognition or some kind of reward for communication achievements. This can even be selecting a trainee to feature a description of their manuscript in a meeting or journal club. Or if a trainee receives favorable review comments on a submitted manuscript, ask them to share what they did well with the others.



Stimulate trainee participation in scientific conversations

- Require that trainees prepare 3 questions in advance of a meeting with a visitor or at conferences. Allow trainees to review questions with you in advance if they wish; help guide them in expected ways of phrasing the questions.
- Actively reach out to trainees who don't speak as much in meetings and ask them to comment or express an opinion. (Avoid yes/no questions.)
- Assign a trainee to moderate the discussion after lectures or meeting presentations by preparing extra questions.
- Help more junior trainees learn the appropriate way to ask questions of other professionals. Sometimes a little 'script' is useful, especially for L2 trainees. (Ex: "Could you tell us a little more about that?"; "I'm curious as to why you..."; "Can you help me understand a little bit more about...")
- Make sure that L2 trainees can pronounce key terms of their research perfectly. Focus on the number of syllables the word has and which one is accented. Ex: *Metastasis*. TASS. *Me-TASS-ta-sis*.

Develop presentation skills and facility

- Don't wait to work on presentation skills until the trainee is selected for a poster or oral presentation at a meeting. Create along-the-way opportunities, such as asking them to prepare a 5-sentence summary of a classroom lecture, presentation, journal club article, etc. and be ready to present it at the next class or meeting. Select one person at random to present it.
- Insist on rehearsal w/ feedback. Include small group of colleagues. Trainee may also want to invite someone. For those with high anxiety, start with private rehearsal. Know in advance who has high anxiety.
- Help trainees overcome anxiety about being asked questions after presentations by rehearsing with them, but also by giving them pointers on how to deal with challenging situations. ("We had the same question"; "That's a question for the statistician"; "Why don't we discuss this during the break?" etc.) Remember, there is more to presenting than just knowing the content.
- Where possible, assign a trainee to prepare the introduction for a guest or speaker and allow them to deliver it to the audience beforehand. (Give more junior trainees examples and guidelines of how this is done.)
- Have trainees develop a 90-second elevator speech about their research. This is a very challenging and very rewarding task.
- Videotaping—a godsend for some, way too intense for others. Use judiciously.



Read and comprehend more and better

- Show trainees how to find these 5 things in every research article they read: The problem addressed, the gap in knowledge, the purpose of that particular study, the conclusion, and the significance. Ideally, they should be able to find a single sentence or two that best captures those elements. Underlining whole paragraphs is unacceptable!
- Introduce an activity requiring students to read and prepare a brief critique of an article every week. This can be for group discussion rather than formal evaluation.
- Two examples of journal article reading activities that are excellent for boosting junior graduate and/or undergraduate students' cognitive apprenticeship in scientific communication:
 1. This article can also be used to evaluate incoming students' comprehension level and critical thinking and is not difficult to implement. The same methods can also be applied to existing journal clubs.
Van Lacum, EB, Ossevoort, MA, & Goedhart, J. (2014). A teaching strategy with a focus on argumentation to improve undergraduate students' ability to read research articles. *CBE Life Sciences Education*, 13(2), 253-264. <https://doi.org/10.1187/cbe.13-06-0110>
 2. More in-depth: the 'CREATE' strategy developed by Sally Hoskins and Leslie Stevens. Stevens, LM & Hoskins, SG. (2014). The CREATE strategy for intensive analysis of primary literature can be used effectively by newly trained faculty to produce multiple gains in diverse students. *CBE Life Sciences Education*, 13(2), 242. <https://doi.org/10.1187/cbe.13-12-0239>



Write more and better

- See 'Read and comprehend' above.
- Getting started and making sense from the chaos: Show students how to plan a manuscript using the 5 key elements described in 3a. They should write no more than 1-2 sentences for each element, preferably 1. This forms the road map. When they can do this, and the 5 elements are aligned and make sense together, they are ready to begin the manuscript. You can use similar scaffolding for other sections; for example, for a discussion section, you could ask for 1) scientific conclusion of manuscript; 2) one sentence explaining why the findings are important; 3) 2 other findings that support the conclusion; 4) a possibly detracting finding, and what it means; 5) 2 strengths of the study; 6) 1-2 weaknesses; 7) a key implication; 8) next steps. Of course these can be modified as the paper develops, but this bare-bones list will orient the writer. If the writer is unable to articulate these, he or she probably needs a better understanding of the work that was done before proceeding.
- Have trainee come in and verbally describe the manuscript to you. Allow them to articulate fully, as that process is as valuable as the feedback you will give.
- Have group writing retreats, preferably with food. Writing is a lonely activity, and being in the presence of others who are similarly focused is both relaxing and motivating.
- Find an old article of yours and the review comments, and discuss with trainees how you reacted to the comments as well as what you did to address them. Help them interpret review comments on their own work.
- Ask trainees to identify new articles in your field and write summaries of them for your review. Provide feedback as needed on quality of summaries.
- Improve your skills in giving effective feedback.

