



Help students understand what you expect about their report writing – so that they can focus on their report content

Top tips for scientific/technical report assignments

Do the reports that you receive from students seem to be plagued by issues? Here are some ideas to help your students to improve their report-writing without losing much class time to these issues.

1. See through your students' eyes

You are about as well-educated as a person can be, working at the top of your field. Even the most overperforming students aren't likely to have the knowledge that you do.

Since it is difficult for you to remember when you did not know all that you do, you may need help in seeing from the students' perspective. Seek anonymous feedback from students about what they find difficult by using digital tools (such as Poll Everywhere, Mentimeter, or Free Suggestion Box). This can help you know how to use class time more strategically to clarify what students find confusing. For more nuanced feedback, arrange to have a Mid-Semester Course Analysis (MSCA) through the Center for Teaching and Learning.

2. Provide resources

"Teaching Spotlights" are small but impactful ways for professors to keep consistent pedagogical improvement at the forefront of their teaching practice.

Do you require specific sections in the report that students complete? Then you might give them a sort of template. It can provide all of the headings/subheadings that you want their finished reports to contain, with short descriptions that you provide of what sort of material should appear in each section. This can help students understand, e.g., the difference between what goes into results sections versus what should appear in discussion sections.

If you use this option, it is a good idea to include information like:

Additional resources

Hardy, Dana Carbone. “Lab Check, 1, 2, 3: Helping Students Write Clear and Concise Laboratory Reports.” *The Science Teacher*, vol. 70, no. 1 (January 2003): pp. 31-33.

Monash University’s Learn HQ. “How to Write a Report.”

Purdue Online Writing Lab. “Reports, Proposals, and Technical Papers.”

Purdue Online Writing Lab. “Writing in Engineering: Report Writing.”

Turbek, Sheela P, et al. “Scientific Writing Made Easy: A Step-by-Step Guide to Undergraduate Writing in the Biological Sciences.” *Bulletin of the Ecological Society of America*. (2016).

- Whether the headings and subheadings can be modified to suit the specifics of the students’ project/report content.
- Whether appendices are required or optional.
- For students new to your field, what kind of figures (scatterplots, bar graphs, are usual for the data they will collect.

3. Be transparent about what you want

While many people might think of scientific reports as one monolithic type of text, there are many different approaches to reports. So, it will be immensely helpful to your students for you to be clear in expressing your expectations for their report. This involves many aspects, including:

- **Type of abstract:** Do you want an indicative or informative abstract?
- **IMRaD or other:** The IMRaD structure (introduction, method, results, and discussion) is usual in many reports, so your students may assume this is what you want. If you prefer something else, be sure to state clearly what that is.

Similarly, it can help students who are not STEM majors to understand the difference between reports and essays. Point students to [this page on the “Craft of Scientific Writing” site](#) to help explain those differences.

4. Use a rubric to convey expectations

Rubrics can be helpful ways to deliver your feedback on a finished report. But rubrics can help students understand the expectations for different assignments, too. If you use a rubric, make sure that students see the rubric as soon as you assign the report task. Bring it up on a projected slide in class to help talk through your expectations for the finished report. This helps students plan their writing in a more targeted way, but it also means that your feedback on the final version will be more comprehensible to students – in turn, this helps them better understand their writing strengths and weaknesses, allowing them to know how to improve their writing skills.