



Writing in the Science Classroom: Dissecting in the Ideal Environment

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Remarks from the Author

In the more than two decades since this article was published, those who facilitate and evaluate student writing have found their task increasingly challenging. Helping students determine the credibility of online resources in addition to maintaining the integrity of student writing in the age of artificial intelligence are two key challenges. Despite these factors, I remain committed to my recommendations outlined in the article. Engaging students in the work of the classroom—both course content and the accompanying writing that confirms our students' understanding of that content—should be what drives our interactions with them.

Kimberly L. Snoddy, 2023

"But this is a *science* class! How well we *write* should not count in here!"

Such disdain and disbelief on the part of their students when science teachers critique the students' writing is common. However, as a teacher of writing, I believe that science teachers who hold high expectations for their students' writing contribute greatly to the goals of English teachers set for these students. Much of the impetus behind the Writing Across the Curriculum movement is founded in the belief that if students are to improve their writing, they must write both inside and outside the English classroom. However, a student who is less than willing to write outside the English classroom and an instructor who may feel uncomfortable grading that student's writing both contribute to a less than ideal situation. Thus, I have several recommendations which focus not only on improving student writing, but also on improving the relationship between the writing science student and the science teacher.

1. *Approach your students with the attitude that they can learn to write well.*

Having taught writing for several years, I truly believe that writing is a skill that can be learned just as shooting a jumpshot, casting a fly rod, focusing a microscope, or filtering a suspension can be. It is true that some students have more natural ability than others, but many aspects of good writing are concrete skills that can be developed: framing an essay varying sentence structure, describing an object using the senses, using active or passive voice, and And even more good news – if writing is a skill that can be learned, it is a skill that can be taught.

2. *Teach writing using the process approach.*

The process approach to writing includes the following: prewriting, drafting, revising, and editing/proof reading. The process approach should be encouraged at all levels, elementary through college. If you adopt the process approach to teaching writing, you will encourage and facilitate brainstorming or mapping or other idea starters before initial drafts, and you will allow ample time for feedback of these drafts either from you or the students' peers (based on guidelines that you have provided). Students should be given time for major revisions and careful proofreading before

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the assignment is submitted for a grade. Students need to create their work in conditions similar to those of professional writers. Those who write well know there are two criteria to producing a focused, thought provoking piece of writing – feedback and opportunity for revision.

An instructor who follows the process approach to writing is communicating to the student that good writing is rewriting. Prewriting and revising are by far the two stages of the writing process with which most students simply do not spend enough time. However, the instructor plays a key role in this, and by encouraging the process, you are saying to them, “You can learn to write, and I will show you how.”

3. *Do not feel compelled to pore over everything the students write.*

If writing is a skill that can be learned and thus taught, it is important to consider this question: What is the best way to improve a skill?

Practice. The student who is trying to focus the microscope or filter the suspension will get better to some degree simply by practicing, even without guidance. Consequently, if you do not mark everything the student writes, have faith that you are helping them become a better writer each time you assign something, whether it is a lab report, a response to a field trip, or a daily observation related to the subject matter. Instructors in various disciplines use daily or weekly journals for just that purpose – practice. Students simply need to write more.

4. *Encourage reading.*

Dr. Janice Lauer, one of the foremost contributors to the field of composition and rhetoric, in a class lecture at Purdue in 1996, asserted that “reading over time can improve one’s style (vocabulary and syntax).” By directly encouraging reading, you may very well be indirectly helping the science student to improve their writing. Supplement the traditional science reading, and do not discount related fiction. After a study of butterflies or moths, young Hoosier women in particular, may be interested in Gene Stratton-Porter’s *Girl of the Limberlost*. Nature studies can be accompanied by readings of Haiku, poetry that has nature as its theme.

5. *Reward the process.*

My ultimate goal is to convince my students that if they are willing to buy into the process, they can produce a piece of writing of which they can be proud. Some writing professionals will disagree with me philosophically here, but I do not believe that any grade restriction should be placed on revisions. In other words, if a student in my class receives a C- on a first graded draft, it could potentially receive an A by the end of the semester if the student develops enough skill and is willing to work and rework the draft. Admittedly, at some point the instructor will have to implement time frames for such revisions, and some students even when given several opportunities to rewrite will not develop the sophistication in their writing to earn an A. However, students will never hear me say, “You may rewrite, but for only one letter grade higher.” To do so is to penalize the process, not reward it. Holding that student’s so-so draft against them conveys the message that really good writers do not begin with so-so drafts, and I would certainly argue that!

6. *Share your own writing/rewriting.*

One of the great myths of writing is that there are two classifications of writers – those who can and those who cannot. What has perpetuated this myth for students is that they compare the finished products of published writers (which have gone through numerous revisions unseen by the reader). Thus, students are convinced that they belong in the category of those who cannot. Students need to see works in progress.

Of course, if you teach the writing process students will begin to see the early drafts of their peers, but it would also be helpful if you brought in your own writing: rough and final drafts of letters of recommendations, college course papers, reports, and other examples. Ideally, you should discuss what changes you made in your revisions and why you did so. Sharing your so-so drafts along with the polished versions will make good writing seem more attainable to your students.

7. *Talk about classroom readings as pieces of writing.*

Consider the following: What we read; someone once wrote.

That does not seem very profound, but one way to improve students' writing is to get them to think like writers when they read. In other words, as you discuss classroom readings with students, ask them to evaluate how well the ideas are communicated. How has the writer highlighted main ideas? Are there topic sentences? What methods of development are used? Narration? Example? Description? Illustration? Process? Comparison/Contrast? Have students, too, look for transitional techniques as well as introductory and concluding strategies.

The better able students are to identify these techniques and strategies in someone else's writing, the more conscious students will be of the quality of their writing.

With recent legislation mandating that a science component be added to the ISTEP in the new millennium, there is an increasing need for science teachers to not only have their students write but to do so in an environment that will encourage sophisticated, higher-level thinking. Adherence to writing as a process fosters such intellectual goals. Science teachers have always known that it is not enough to be able to think about data analysis, cause and effect, hypotheses and conclusions – the real test is whether or not the science student can communicate these concepts. What better way is there to help students share these ideas than through the writing process which encourages students to both reflect on and refine their thinking?

References

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Note: Issues of THST prior to 2016 did not use APA format. Editors chose to keep the original format for this reprint.

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