



Editor's Corner

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Let Us Now Praise Science Teachers



I am now going to tell you something that, if you are a science teacher, you already know: *science teaching is a difficult job*. You know this, but let me offer some reflections that you might want to share with a friend, family member, colleague, or supervisor.

Science teaching is difficult because a good science teacher must, first and foremost, have an excellent understanding of challenging, ever-changing content. Science teachers often must teach out-of-field, or in more than one science discipline. Not only do they have to understand tough science concepts—from antimatter to zwitterions—that leave most adults scratching their heads; they also must understand them well enough to translate them into terms that young learners can understand. Those without good communication skills need not apply.

Beyond science-content knowledge, a skilled science teacher needs to understand and apply best teaching practices. For a science teacher, it is not just what you know, but also how you make this knowledge accessible to young people. It requires considerable creativity, skill, and effort to create student-centered, inquiry-based classrooms with a strong laboratory component. And today, “best practices” refer to an ever-expanding portfolio of teaching strategies. There are best practices for teaching and encouraging English language learners, gifted or high-achieving students, at-risk learners, students with physical or learning disabilities, minority students, girls (and boys), and different learning styles. There are best practices for assessment and for integration of technology. Keeping abreast of new computer software and hardware, probeware, and other science technology applications sometimes can seem almost like a full-time job in itself.

Next, science teaching is difficult because a science teacher needs to be able to manage—and sometimes repair or modify—equipment that is often expensive, complex, and potentially dangerous. For the science teacher, preparation for class involves much more than writing the daily lesson plan. Supplies and apparatuses need to be budgeted, ordered, unpacked, cleaned, and safely stored before and after use. Balances and probeware need to be calibrated and maintained, biological specimens must be ordered to arrive at the correct time, and chemicals need to be used safely and disposed of properly.

Class-management issues are part of all teaching, but these can be more acute in the science classroom. A chaotic, out-of-control class is bad enough when students are “unarmed,” but throw in scalpels, acids and bases, and projectiles, and a class of 20 or more teenagers can become downright *scary*. It goes without saying that a good science teacher must be able to maintain class control and establish a positive, safe learning environment at all times.

In addition to—or because of?—all this, it can be difficult to maintain an enthusiastic, positive attitude. A successful science teacher must be able to remain upbeat, connect with students, and provide emotional and instructional support when necessary. Interpersonal relationships with parents and supervisors can be challenging as well. A good sense of humor helps—in no small part—to maintain a teacher’s sanity! The ability to relate to young people, even to make them laugh, is not an easy thing.

Science teaching is made all the more difficult, both practically and psychologically, by the relatively low pay. As I observed in this column last month, science teachers are generally not compensated at a level commensurate with their value to society and comparable to salaries available to other similarly trained science professionals.

The science teacher is called upon to be scientist, educator, equipment manager, safety inspector, lecturer, child-care provider, coach, writing editor, mathematician, historian, counselor, and stand-up comedian—all at once. Given all this, we should have the highest admiration for those who choose science teaching and become successful. And we should be in awe of science teachers who, despite the daily difficulties of their profession, go above and beyond the normal challenges to take on additional responsibilities. These saints of our profession regularly participate in professional development, attend NSTA conferences, and volunteer for leadership positions. Many—such as the authors featured in this month’s issue of *The Science Teacher*—also go the extra mile to provide enrichment opportunities for their students: supervising science clubs, arranging field trips, managing science fair projects, and creating authentic student research opportunities.

So next time you run into a science teacher, give him or her a pat on the back for choosing such challenging, rewarding life’s work. If you are a science teacher, give yourself a pat on the back as well.

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