Reports from Other Journals

The Physics Teacher: Chemistry and Physics Teachers Have a Lot in Common

by Roy W. Clark

The previous time I reported to chemists on *The Physics Teacher (1)* it was to emphasize the differences between chemistry and physics teaching. In this report I wish to de-emphasize these differences—to make the point that physics teachers have very similar problems to those of chemistry teachers. The following recent *TPT* editorials describe how similar our concerns are.

A Voice Crying out in the Wilderness

This editorial addresses cheating, a subject that is crucial to the integrity of our teaching and grading activities. In 80 years of *JCE,* cheating on tests in the classroom has been addressed only a half dozen times *(2–7).* There have been a few more discussions in *JCE* about ethics in general, particularly in laboratory reporting, but in my opinion the subject of cheating on tests has largely been ignored. Mamola suggests, after citing some statistics and actual cases from the physics classroom, that the examples we set by being scrupulously honest ourselves and by making our expectations very clear to students will help, despite lack of support from administrators. My own opinion is that teachers should talk more among themselves about this subject and compare methods used to monitor the classroom behavior.

Sharing Experiences

This guest editorial by Holbrow addresses a topic that all college chemistry and physics teachers have in common. He tells the story of a young physicist fresh from graduate school who is talking with undergraduates in an electricity and magnetism course that he has been assigned to teach. Six years ago this teacher had been sitting where they now sat. The undergrads asked him about graduate school and research, and if this was his first teaching job. When he replied "yes," one thoughtful student asked in puzzlement, "But then where did you learn to teach?"

Holbrow concludes that in physics the typical new teacher goes into the first classroom "cold" and begins inventing teaching. In fact, he claims, you never learn to teach, you keep on learning until your last day of teaching. Of course, all the time you are learning to teach you must also learn the material you teach. I know that I learned more physical chemistry by teaching it than I ever did by taking courses. Holbrow concludes that your teaching organization (the American Association of Physics Teachers in physics or American Chemical Society Division of Chemical Education in chemistry) should be able to help you at any stage of your career.

Forty Years of *TPT*

Most readers of this column are aware that this is *JCE's* 81st year of publication *(8). The Physics Teacher* has been in business approximately half this time and is entering its fifth decade. Mamola remarks, upon looking back at the April 1963 issue, that he is struck by "how many of these old papers deal with topics still of relevance to today's teachers." This caused me to look back at *JCE's* first issue to see if many of those titles are still relevant today. Some are: "What we teach our freshmen in chemistry" *(9);* some are not: "Should the electron theory be included in high-school chemistry?" *(10).* I urge the reader to use the *JCE* online index to look at titles from the early years to see if teachers' concerns have really changed.

Searching the Literature Made Simple(r)

The Physics Teacher with its index has been online for only a year, and the editor, Karl Mamola, has used this editorial to explain to *TPT* readers how and why they should use it. After explaining how to access the *TPT* and *AJP (American Journal of Physics)* index *(11),* he suggests physicists search the *Journal of Chemical Education* index online *(12).* He also recommends searching *Physics Education*, a journal published by the Institute of Physics Publishing (UK) *(13),* a resource that some chemists may not be aware of.

Many prospective authors for *JCE* use its online index to search for previously published papers similar to their efforts, but for some subjects that overlap chemistry and physics they would do well to search the above mentioned online indexes as well. In a recent issue of *TPT* there is an article, "Experimental Determination of Absolute Zero Temperature" *(14),* in which 60% of the references cited are from *JCE.* Should not we reciprocate?

Literature Cited

1. Clark, R. W. *J. Chem. Educ.* **2003,** *80,* 14.
2. Battino, R.; Weissman, S. *J. Chem. Educ.* **1973,** *50,* 448.
3. Lippert, E. L., Jr. *J. Chem. Educ.* **1974,** *51,* 216.
4. Deal, W. J. *J. Chem. Educ.* **1984,** *61,* 797.
5. Harpp, D. N.; Hogan, J. J. *J. Chem. Educ.* **1993,** *70,* 306.
6. Tamine, J.; Quigley, M. N. *J. Chem. Educ.* **1993,** *70,* 845.
7. Rissuto, G. T.; Walters, F. *J. Chem. Educ.* **1997,** *74,* 1185.
8. Moore, John W. *J. Chem. Educ.* **2003,** *80,* 7.
9. Cornog, J.; Colbert, J. C. *J. Chem. Educ.* **1924,** *1,* 5.
10. Hutchins, R. B. *J. Chem. Educ.* **1924,** *1,* 145.

11. *The Physics Teacher* online index: *http://www.aapt.org/tpt;* and *American Journal of Physics* online index: *http://www.aapt.org/ajp* (accessed Feb 2004).
12. *JCE Online. http://www.jce.divched.org* (accessed Feb 2004).
13. *Physics Education* online index. *http://www.iop.org/EJ/journal/PhysEd* (accessed Feb 2004).
14. Ivanov, D. T. *Phys. Teacher* **41**, 172–175.

Roy W. Clark is in the Department of Chemistry, Middle Tennessee State University, Murfreesboro, TN 37132; royclark@bellsouth.net.

TPT Featured Articles

Mamola, Karl. A Voice Crying Out in the Wilderness. *TPT*, **2003,** *41*, 6.

Holbrow, Charles H. Sharing Experiences. *TPT*, **2003,** *41*, 71.

Mamola, Karl. Forty Years of *TPT*. *TPT*, **2003,** *41*, 198.

Mamola, Karl. Searching the Literature Made Simple(r). *TPT*, **2003,** *41*, 320.