Managing E-mail: Editorial Woodland Book Projector Classroom Matai us old Valley To requests THE Award Distinguished ABT of Woodland, Reviews: St., 1996, 1990, of Wayne W. Carley Editorial Staff: Kay Acevedo, Jo Marshall, Cheryl Merrill ABT Production Office: 12030 Sunrise Valley Drive #110, Reston, VA 20191-3409, Phone: (703) 264-9696, Fax: (703) 264-7778, E-mail: nabet@aol.com, Web site: www.nabt.org

ADVERTISING SALES
Account Executive: Kerrie Brooks, Network Publications, 10155 York Rd. #205, Hunt Valley, MD 21030, Phone: (410) 628-0390 E-mail: kbrooks@networkpubs.com

DEPARTMENT EDITORS
Biology Today: Maura C. Flannery, St. John’s University, Jamaica, NY 11439 Book Reviews: Rita Hoots, Woodland Community College, 41605 Gibson Rd., Woodland, CA 95776 Classroom Technology Reviews Projector Reviews: Bill Belzer, Clarion University—Venango Campus, Oil City, PA 16301 Software Reviews: Richard Duhrkopf, Baylor University, Waco, TX 76798 AV and CD-Rom Reviews: Rachel Hays, 69 Matai St., Castlecliff, Wanganui, New Zealand

Change of Address: Please promptly notify us of a change of address. Simply provide your old mailing label along with your new mailing address and send to: The American Biology Teacher, 12030 Sunrise Valley Drive #110, Reston, VA 20191-3409.

To Submit Articles: All articles and requests for editorial guidelines should be sent to ABT Managing Editor, NABT, 12030 Sunrise Valley Drive #110, Reston, VA 20191-3409.

Guest Editorial

The Value(?) of Integrated Science

Within NABT I am sure there are many positions on integrated science. I am offering one biology teacher’s thoughts, and I think I speak for an entire segment of the membership. My position? I’ve been teaching integrated science in biology as long as I’ve been teaching biology. From biochemistry to ecology and environmental science, with an occasional splash of geology/earth science and physics, a good biology course incorporates it all into a cohesive whole.

Now this integration is not the same as the mish/mash integrated science courses that are being proposed as the antidote to a “layer-cake” curriculum. (Although I personally am rather a fan of layer cakes and fail to see a problem with baking the goodies separately and then binding them into a cohesive whole.) One major problem with the integrated science course is the lack of well-qualified teachers. Biology is such an exploding field today that I am hard-pressed just to keep up with new developments in my own field, and I certainly don’t have time to pursue additional information about chemistry, physics, geology, etc. Despite my having a double undergraduate major in biology and chemistry, years of focus on biology (and my own personal inclinations and interests) have made me an excellent biology teacher but have left a lot to be desired in other areas. When my son was in high school chemistry, I substituted for his regular chemistry teacher who was out on maternity leave for six weeks. After his teacher came back he told me, “Mom, you’re a great biology teacher, and as a chemistry teacher, you’re a great biology teacher!” There are many teachers out there who ARE great biology and chemistry or biology and physics teachers, etc. but most of us are better at one than another.

It’s almost impossible to achieve excellence in all the areas of science, so by requiring our teachers to teach integrated science, we are going to lose much of our ability to excite and motivate our students. How do students become excited about science? By having teachers who are excited about science and who care enough to make it interesting. Can I do that for biology? Yes! Can I do that for chemistry or physics? Probably not, because I’m not excited about chemistry and physics. If I worked hard at it, I could probably do an adequate job, but that’s not what I want for my students. I want excellence and excitement and a spark of inspiration! That’s what we stand to lose with integrated science, and that’s why I’ll never teach it in high school.

All of this does refer to high school, not the middle school integrated science courses that are the descendents of the old general science courses I had in junior high. If these courses are well articulated they can provide a good grounding in science process skills, an understanding of the nature of science, and basic concepts in various content areas. They must have a carefully coordinated spiraling curriculum in order to provide the necessary preparation for high school science.

In high school, however, we need teachers specifically trained to teach the individual sciences to prepare our students either for further education or for life. Excited motivated teachers teaching areas in which they are well versed is the ideal. I’m afraid the ‘generalist’ approach to teaching science will leave our students ill-prepared for their futures. Most research and applied scientists today are increasingly specialized, and their areas of expertise tend to be highly focused. As high school biology teachers, we have a particular responsibility to give students the “big picture” of biology by showing them how all the different aspects are integrated into the whole. During that process we bring in the elements of the other sciences and integrate those as well. Why would we want to change such a successful model? Could it be that the non-biologists are jealous and want to add more biology to their courses? Great! I hope they do! But let’s get off the “integrated science” bandwagon and let those classes die a natural death to be interred along with the old general science courses in the graveyard of curricular mistakes.

Patsye Peebles
Louisiana State University Lab School
Baton Rouge, LA 70803