From the President

Daniel Ward
NABT PRESIDENT-2011

Teaching Biology with Passion

Last month in this space, I encouraged each of you to be the best biology educator you can be. But what does that mean? What is a good biology educator?

Being a good educator does not happen by accident. Anyone can teach, but a good teacher displays key characteristics that are found both in and out of the classroom. Being a good teacher requires three essential qualities: expert knowledge of the subject matter, the practice of “reflective teaching,” and passion.

Studies on effective teaching have consistently and clearly identified one trait that forms the foundation of good teaching: expert knowledge of the subject matter (Woolfolk, 2004; Pends, 2006). Expert knowledge can be acquired by being a good preservice biology teacher, dedicated to obtaining the necessary biological knowledge to be on the cutting edge of the discipline. I believe that each of us would agree that teachers who know and experience more can do more in the classroom to help students learn more effectively. Educational professional development is commonly used to support teachers in enhancing their knowledge, as well as modifying their teaching methods and, ultimately, improving student achievement (Capps & Crawford, 2009).

Another essential trait of good teaching is the practice of “reflective teaching” (Woolfolk, 2004). Reflective teachers regularly examine their day-to-day situations as a way to analyze their teaching skills, the subject matter, and the motivation of the students, with the goal of improving the overall learning process (Montgomery & Thomas, 1998). Reflective teaching also engages educators in meaningful peer communication through sharing of individual teaching practices, mentoring relationships, and recognition of the expertise and experience of particular teachers (Kilpatrick et al., 1997). Regular reflection prepares teachers for continuous growth throughout their careers.

However, good teaching isn’t just about knowing the subject matter or reflecting on teaching practices. Good teaching involves PASSION, not only about biology but about many other things as well. Good biology educators share their love and passion for the discipline (Leblanc, 1998). They not only motivate their students to learn, they help them discover how to learn. The energy they radiate is infectious, inspiring their students and their colleagues to emulate them as much as possible.

Being an active member of the National Association of Biology Teachers can help you reach your personal goal of being the best biology educator possible. Enhancing your professional knowledge, modifying your teaching strategies, and ultimately improving the performance of your students can be facilitated by taking advantage of the many professional-development opportunities offered through membership in the NABT. Whether you attend the Annual Professional Development Conference, volunteer to become a field tester with one of the many NABT educational partners, receive a fellowship or grant, or simply read the latest entries on the BioBlog, your NABT membership will provide essential information and background needed to stay abreast of changes in biological knowledge and the latest knowledge on how to teach it.

Finally, personal relationships established as an NABT member will foster critical reflection (internally and externally) on how to more effectively teach biology. Senior NABT associates and friends will become your mentors, providing guidance, perspective, and encouragement, as you mature into the best biology educator possible. In turn, your responsibility is to mentor your junior colleagues, investing in them as others invested in you. Along the way you will become recognized as a successful biology educator.

Passion exuded by your NABT associates and friends will infuse you with new energy and a sense that anything is possible. I experience this invigoration every year at the Annual Professional Development Conference.

As NABT president elect, I had the distinct honor of presiding over the NABT Honors Luncheon last November. Having so many exceptional biology educators in one room was intoxicating. The energy in their steps as they came forward to receive recognition, the twinkle in their eyes when I looked into their faces and shook their hands, the smiles that crossed their faces as they gazed into the audience, all made me realize how passionate these biologists are about their educational talents. How fortunate I am to be part of a professional organization like the National Association of Biology Teachers.

Good biology educators do what they do – not because of the money or because of what their administrators require. Good biology educators are simply good, because they enjoy what they do and because they want to be good at it.

Dan Ward
NABT President—2011

2010 Outstanding Biology Teacher Award winners. (Photo taken by Dennis Gathmann.)
call for manuscript reviewers
for the american biology teacher

If you are interested in becoming a manuscript reviewer for ABT, please send the information below to Bill Leonard at leonard@clemson.edu. We especially need K-12 teachers. Thank you in advance for your contribution to biology education.

Name, position, institution, postal address, and e-mail address.

Also, please identify the areas listed below in which you are comfortable reviewing manuscripts:

- **Grade Levels**: elementary and middle, high school, two-year college, or four-year college
- **Teaching Strategies**: inquiry, lab, field, reading, media, computer, discussion, and group.
- **Content Areas**: such as botany, microbiology, invertebrates, vertebrates, entomology, health & medicine, A & P, parasitology, aquatic biology, genetics, biotechnology, marine biology, cell biology, evolution, biodiversity, systematics, ecology, environmental biology, population biology, behavior, nature of science, ethics, equity, STS or technology. Please be as specific as possible.

**References**


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Who First Reported a Genetic Disease?

I enjoyed reading the article by Heron et al. (2010) in ABT last September. On page 424, the authors state that “Sickle cell disease was the first disease to be recognized as having a genetic basis, and thus linked phenotype to genotype (Weatherall & Clegg, 2001).” But according to Darnell et al. (1990: p. 9), the first relation between a genetic defect and a biochemical abnormality was reported in the study of the human disease alkaptonuria by Archibald Garrod in his book *Inborn Errors of Metabolism* (1909). However, according to Sutton (1980: p. 5) and Dunn (1965: p. 242), Garrod’s studies on alkaptonuria, published in 1902, state clearly the hypothesis that alkaptonuria is inherited as a Mendelian recessive trait. In 1910, the American physician James B. Herrick presented his findings of the blood disease (later to be called “sickle cell anemia”) at the annual meeting of the Association of American Physicians (Volpe, 1971: p. 145). J. V. Neel provided evidence in 1949 that sickle cell disease is inherited as a simple Mendelian autosomal recessive character (Volpe, 1971: p. 146). However, Pauling et al. (1949) correctly identified the codominant nature of the alleles in heterozygous individuals with sickle cell trait (SCT) because both normal hemoglobin A and abnormal hemoglobin S are expressed in heterozygotes. “Very few individuals homozygous for the sickling gene survive to reproductive age” (Volpe, 1971: p. 147). If a “recessive lethal mutation” is defined as a mutation that results mainly in the premature death of homozygous individuals, sickle cell anemia is a recessive lethal condition. Sickle cell trait (heterozygous genotype) could be classified as a “conditional lethal” because the sickling gene typically causes death “only in situations of dehydration or when the oxygen saturation falls to about one-third the normal level” (Herron et al., 2010: p. 424).

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**References**


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