EDITORIAL

How Schools Benefit from Sending Teachers to Conferences

Recently our department was asked to defend the use of budget money to send teachers to conferences and national conventions. The most important benefit derived from sending teachers to a well-run conference can be understood as follows:

Dedicated teachers have all they can do to develop and perfect a piece of curriculum over the course of several years. It is usually in response to a perceived problem. Chronically workaholic teachers find themselves postponing or shortchanging other areas of responsibility to finish the needed research, writing, materials development, testing and revision necessary to solve the problem. There is a lot of trial and error involved, using our students as guinea pigs. Other problems, no less pressing, must await another year . . . or two . . . or three . . . or never. New technologies require an equal investment of teacher time to make them truly useful in the classroom.

At a well-run conference a teacher can harvest the years of work of other teachers to solve those waiting problems of curriculum and technology. In 75 minutes I can share my hard-won gems with the only people who appreciate what went into their production. In each of the other 75 minutes I can receive gems gleaned from five years of effort by another similarly driven master teacher, essentially multiplying my efforts by solving 5–10 of the waiting problems. Such peer support and such a return on my investment sends me home ready to tackle another problem . . . one I had never expected to be able to address in many years. And my students, or even the whole school, will reap the immediate benefit of these ready-to-use solutions.

The 1993 NABT National Convention in Boston was a fine example. I first presided over three 20-minute papers that I did not expect would be of interest to me. On the contrary, in 20 minutes, one speaker took me from where I am now with HyperCard (no... learning it seemed too time consuming for possible return right now) through her search for a program that would shortcut the time and program language learning necessary to put together and debug an internally cross-referenced hyperstack. She briefly reviewed each program she had examined and presented us with her emodel build: HyperGASP, a $65 HyperCard add-on that extends HyperCard’s menu by two window columns. In one click it programs buttons for you. Look, Ma, quick learning time; no more debugging time.

To find this gem, she had spent more than two years reviewing shareware and purchase programs that are made by tiny companies that never see the light of a distribution system. Our computer teacher could find no listing for HyperGASP in any of his sources, let alone a review of it. Her hard work will bring our entire school a giant step forward in our efforts to teach ourselves and our students modern technology as a tool for learning.

Had I left the convention then, I would have felt it was worth the money. Years of my time (or our computer teacher’s) had been saved. Would I have read it in a journal? Not likely. I tend to read professional journals in the summer and check only the topics I am currently struggling with.

So much for the gem I stumbled upon. What about the sessions I actively chose to attend?

Two sessions addressed four of my current problems:

1. How to get projects for the cooperatively grouped class that are experimental inquiry, rather than model building.
2. How to carry on an experimental program in a room that is dominated by IPS cabinets (6) and must have clear counters for IPS lab work.
3. How to get more plant work into the curriculum without enormous investment in space and in setup and culture time.
4. How to tie environmental issues more appropriately into the Life Science Curriculum.

I emerged with a pair of new plant culture systems that solve all four problems at once. High school teachers in Medford have crossed the fast-plant technology with bottle biology technology and worked out the bugs for us. A college professor has resurrected the lowly garlic clove, having discovered that it requires no soil, no fertilizer, no special lights, no purchased equipment, and no care. Both have used these systems with students to test for a great variety of forms of pollution and have passed on to us the tips that make the difference between success and failure.

Again, years of development work on our part saved. Larry has gone off to buy garlic even as I write.

One of the most exciting workshops addressed my hesitancy to assign written homework because of the high rate of plagiarism I have experienced and the low level of thinking that most require. The presenter provided us with models for a variety of simple but elegant assignments that are easily evaluated, that force analysis, synthesis and creative thinking that can result in only uniquely personal submissions. Not only will these solve the original dilemmas, but they will alleviate boredom and sleepiness during the correcting as well.

Seventy-five minutes to solve a problem raised in our departmental evaluation four years ago. Think of the summer curriculum development money saved.

An hour of wandering the aisles of the Exhibit Hall gleaned one last gem. No need to spend the time writing out purchase-after-review requests and P.O.S, or finding suitable test materials. The inventors of the Brock Magicscope were there to show it to me and answer every last question.

The remaining hours accomplished the usual combination of updated knowledge, direct contact with giants
in the field, professional network building, examination of materials, and brain-picking that every conference I've ever been to can provide. I watched Stephen J. Gould demonstrate how our deep-rooted societal iconography has delayed the completion of the Darwinian Revolution. I heard a remarkable synthesis of what we now know about the genetics and mechanisms of cancer (with impact on me similar to a unifying theory of natural forces on physicists). I listened with tears in my eyes to Nancy Wexler, whose work, with others, has elucidated the genetics and developed a test for carriers of Huntington's Chorea, from which her mother died. Later in the evening, as a committee chairman, I was able to talk with her and five or six others for more than an hour, learning of the extension of the Huntington's work to other nervous system diseases, such as the one of which my mother and grandmother died.

From all of this we receive the personal and professional validation which, I regretfully say, comes from no other source outside my classroom; opportunities to attend professional conferences are essential if you wish to keep the best and brightest from leaving the field.

Marion P. Harris
Guest Author

Correction:
Susan J. Karcher's article, "Getting DNA into a Cell: A Survey of Transformation Methods," (ABT, January 1994) contained an omission in Figure 3, which appeared on p. 17.

The description for Figure 3 should have also included the following explanation of Parts A through E:
A. High pressure helium gas;
B. Restraining membrane;
C. Macroprojectile with DNA-coated microprojectiles;
D. Screen to stop macroprojectile with holes to let microprojectiles pass;
E. Target tissue.

Make plans to attend NABT's National Convention, November 16-19, 1994 at the Adam's Mark Hotel in St. Louis, Missouri. For complete details, call NABT at (703) 471-1134.

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Figure 3. A helium-driven biolistic instrument. Rupture of the restraining membrane by high pressure helium gas propels the macroprojectile, a thin disc with DNA-coated microprojectiles on it, toward the stopping screen at high velocity. The microprojectiles are 0.5-5 μm tungsten or gold beads. The DNA-coated microprojectiles pass through holes in the stopping screen and enter and transform the target tissue. See Johnston (1990).