

## /THE LAST WORD

# Online Education Program Helps Teachers Teach Science

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As more biotechnology companies reach profitability, more of you will start considering ways in which you can contribute to your community in a way that reflects the culture of your company and the needs of our industry. As you do so, I recommend you consider two factors.

First, evaluate what your employees are already doing on their own. Any effort you undertake as a company will be considerably easier and more effective if it has the backing and enthusiastic support of your employees. At Genentech, while our employees have been involved in a wide variety of community efforts, from beach cleanup to youth mentoring, a common effort among our primarily scientific staff has been in the area of science education—and it is from that foundation that we launched a comprehensive national effort called Access Excellence. I suspect many of you may find a similar interest among your employees.

Second, consider science education and its importance to your business. Effective education in the sciences is lacking in many communities: In a recent U.S. Department of Health and Human Services (Washington, D.C.) survey, high school seniors scored the lowest in advanced placement biology out of 13 countries. Yet effective education in the sciences, particularly the life sciences, is tremendously important for the entire biotechnology industry.

Obviously, we need to have continually available a pool of scientists from which to hire. But we also need many more people other than scientists. At most biotechnology companies, whether recruiting a lawyer, a plant manager, an administrative assistant, or a human resources specialist, you typically need employees who have at least a general understanding of and appreciation for the life sciences.

For all these reasons and more, it makes sense for any biotechnology company to contribute to improving science education in this country. Genentech thinks it makes perfect sense. Launched in October 1993, Access Excellence is a \$10 million national education program for high school biology teachers. The program centers around a communications network on America Online and the internet's worldwide web. It provides online access to colleagues, scientists, and educational resources to help bring current laboratory science into the classroom.

Genentech developed Access Excellence systematically. Once we decided to get formally involved in science education, we determined how to get involved based on direct feedback from teachers themselves. Much of our information came from a survey we conducted in 1993 to determine secondary school

teachers' specific needs and the obstacles they faced. The majority of responding teachers stated that they felt isolated from their peers and the latest scientific information and, as a result, were often using out-of-date curricula and teaching methods in the classroom.

Through Access Excellence, biology teachers all over the U.S. have access to an online forum that provides lesson activities from other teachers across the country, a bulletin board to post and source teaching strategies, monthly science seminars led by teams of teachers and scientists, and a support center staffed by computer and science professionals.

By placing the Access Excellence hub online, Genentech was simply applying the best available tools to the task, an approach that is both effective and highly encouraged. In fact, U.S. Vice President Albert Gore has recognized the Access Excellence program, stating in reference to it that "the development of the information superhighway is vital to [American] education and economic development." As testament to the program's success, during the recent Ebola outbreak in Zaire, Access Excellence received more than 40,000 hits in one day, making it one of the most active sites on the internet at that time. Many biology teachers log on before school to review up-to-date scientific news that they can share with their students that day.

Access Excellence includes an annual one week summit for some of the most innovative U.S. high school biology teachers. On the basis of competitive application, the National Science Teachers Association (Arlington, VA) selects approximately 100 teachers to attend the summit, where the teachers receive a laptop computer, a modem, a printer, and intensive training on how to use the Access Excellence Forum online. By holding these annual summits and by involving highly motivated teachers from all over the country, we believe teachers will spread this news to colleagues: Access Excellence is an important resource for high school biology teachers. And teachers can act on that news: The Access Excellence online forum is available to any teacher (or anyone else) with a computer, a modem, and access to America Online (keyword: excellence) or the worldwide web (<http://www.gene.com/ae>).

The beauty of targeting science education is that you do not have to wait until you reach profitability to make an impact, particularly with tools like the internet available. As a start, encourage and assist in the efforts your employees may already be making. Small initial efforts could be a perfect springboard for a more comprehensive program that your employees can rally behind and that your whole company can take pride in, as Genentech does in Access Excellence. Who knows where it could lead? ///