

Learning Through Real-World Examples.

Case Study I: Pathways to Pharmacy

The CVS Corporation's Pathways to Pharmacy program is an excellent example of a public-private partnership that prepares high school students in inner cities and impoverished rural areas for careers as pharmacists—considered to be among the faster-growing occupations with median annual earnings of \$84,900, according to the Bureau of Labor Statistics. Stephen Wing, CVS Director of Government Programs, notes that the Pathways to Pharmacy program focuses on school districts where participation and success in the sciences and math have resulted in special challenges. "These are inner city and rural districts where there has been a shortage of teachers, particularly in the sciences, and a shortage of textbooks. Students can't even take books home; they have to share."

The program starts early, in elementary school, with pharmacists speaking to students about their careers. It continues in middle school, where students job shadow pharmacists and learn more about the job and career paths. High school students, once accepted into the program, take the required math, chemistry, and biology courses. Retired pharmacists are recruited to become mentors and help the students with any problems as they go through the program. The high school program starts in the sophomore year; paid eight-week summer internships usually start between the junior and senior years. In the first three weeks of the internships, students meet college professors and take special research and development courses in local universities. The next five weeks the students work in stores as pharmacy assistants or as technicians. "This is where they really start to understand why they're learning certain things—like the metric system. They see how it applies to the work they're doing. Kids learn by example," notes Wing.

In addition to taking the core science and math courses, along the way students are learning valuable job-related skills, including proper dress and conduct for interviews, resume writing, and interpersonal skills for dealing with customers.

Of all the skills taught, Wing believes the most central is lifelong learning skills.

“People have to retool, be flexible, and continue to learn. It may not mean going back to school to get a degree but taking courses to acquire skills at different points in their lifetime.” After the eight-week internship, students become certified as the highest level of pharmacy technician. Upon graduation from high school they enter a two-year pharmacy apprenticeship, which combines course work at a local community college and working as a pharmacist’s assistant in a CVS store. They are then prepared to enter a four-year college degree program in pharmacy.

Scholarships and loan programs are available to help those with the least financial resources. Up to \$5,000 a year is forgiven in their loans for each year they stay with the company. The program is rigorous and competitive—only the most motivated get in. “The results have been phenomenal,” notes Wing. “We’ve seen kids who were doing terribly or even failing, and this program has turned them around. ...These kids are often the first people in their families to graduate high school. Some are immigrants. In some cases, the parents don’t speak English.” He adds that the program has been particularly successful in recruiting young black males—a group that traditionally has been hard to reach and that experiences high dropout rates. In addition, four-year pharmacy college programs have had difficulty recruiting minorities.

The Pathways program is nationwide. Critical to its success is the close cooperation of all the partners involved: the employers, students and parents, K-12 schools, community colleges, and universities. By starting early, the program develops students’ interest in science and math in elementary and middle school, keeps them motivated by connecting them to the work world in high school, and provides them with educational opportunities at community colleges and universities.

Project-Based Learning (PBL) is a teaching model that organizes and focuses students’ learning on interdisciplinary projects; involves students in investigative, problem-solving and decision-making activities; is student-driven to some degree; and incorporates real-life challenges. The two examples that follow show PBL in action.