

Can CLOs Address America's Brain Drain?

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In survey after survey reporting the needs and challenges of chief learning officers, one issue remains conspicuous in its absence—the brain drain.

Consider the following:

- Several key agencies for scientific research and development will face a retirement crisis within the next five years. According to David DeLong, author of “Lost Knowledge,” the number of engineers and scientists at the National Aeronautic and Space Administration (NASA) older than 60 outnumber those younger than 30 by three to one. In fact, in just four years, half of NASA’s entire workforce will be eligible for retirement.
- Less than 6 percent of today’s high school seniors plan to pursue engineering degrees. This is down 36 percent from a decade ago.
- In 2000, 56 percent of China’s undergraduate degrees were in the hard sciences. In the United States, the figure was 17 percent.
- Ten years ago, American companies were granted 10,000 more patents than foreign companies. Today, that margin is down to 4,000, and six of the top 10 companies are now foreign.
- China will produce six times the number of engineers in 2006 that the United States will graduate, according to Mike Gibbons of the American Society for Engineering Education. Japan, with half the population of the United States, has graduated twice as many engineers in the last three years as the United States.

These statistics are only the tip of the iceberg, and they add up to this: America is losing a pipeline of scientific talent. What is more disturbing is that we are doing little to ensure we train and educate the next generation scientists and engineers. If present trends continue, 90 percent of all the world’s scientists and engineers will be living in Asia by 2010, according to Nobel laureate Richard E. Smalley, professor of chemistry and physics at Rice University. Major employers such as Intel Corp. are aware of this trend and moving operations overseas. As Howard High, a spokesperson for Intel, put simply, “We go where the talent is.”

Why aren’t more CLOs identifying this as a challenge and proactively developing strategies in collaboration with government agencies, K-12 schools, research universities, corporate universities, and national engineering and scientific associations? The seriousness of the issue demands an integrated set of solutions that focus on:

- Forming a consortium of companies to jointly fund the recruitment, development and training of next-generation scientists. One promising development is the consortium formed by Johnson & Johnson, Merck, Pfizer, Roche, Novartis and Bristol-Myers Squibb Company to create the Rutgers MBA with a specialty in pharmaceutical management. It is being

used as both a recruiting tool as well as a continuing education program for high-potential managers.

- Build tools to capture and share the knowledge of strategic workers in scientific and engineering fields. NASA has recognized that capturing the knowledge of experienced scientists and preparing and supporting the next generation of aerospace workers are critical to ensure the success of future space operations. To address this issue, NASA and the State of Florida have funded the development of the Advanced Learning Environment, an entirely Web-based virtual learning and collaboration community. In addition, NASA established the Leaders as Teachers and Mentors program, a Web-based portal to manage networks of alumni who work on temporary assignments or return as mentors in the organization. Tools such as these revolutionize the job of knowledge capture and collaboration by giving current workers and alumni access to each other.
- Use the philanthropic arms of corporations to partner with local K-12 schools and corporate universities to develop programs targeted at training next-generation scientists and engineers. How many CLOs are familiar with the efforts of their company's foundation to fund programs at the K-12 and state level to recruit and train scientists and engineers? The head of your company foundation might become your next key stakeholder as you develop an enterprise-wide approach to solving the brain drain in your industry.

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