

Are We Doing Enough to Develop Our Technical Employees?

Jeanne C. Meister

The recent report, "Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future," commissioned as a congressional study by Sen. Lamar Alexander and Sen. Jeff Bingaman concludes that the United States is losing its position as a world leader in the global economy. This is largely because of the emergence of a flat world. As Thomas Friedman points out in his book "The World Is Flat," advanced knowledge is a mouse click away, and the traditional advantages held by the United States, particularly in areas of science and technology, are eroding.

Consider the following statistics outlined in the report, "Rising Above the Gathering Storm:"

- The United States is now a net importer of high-technology products. Its trade balance in high-technology manufactured goods shifted from more than \$54 billion in 1990 to negative \$50 billion in 2001.
- Chemical companies closed 70 facilities in the United States in 2004 and tagged 40 more for shutdown. Of 120 chemical plants being built around the world with price tags of \$1 billion or more, one is in the United States, and 50 are in China.
- In 2005, only four American companies ranked among the top 10 corporate recipients of U.S. patents.
- Federal funding of research in the physical sciences, as a percentage of the gross domestic product, was 45 percent less in 2004 than in 1976.
- In 2005, more than 600,000 engineers graduated from institutions of higher education in China. In India, the figure was 350,000. In America, it was about 70,000.

The international marketplace quickly is changing as innovation becomes faster, cheaper, more global and increasingly multidisciplinary.

So, how does America compete in this global economy? As stated in Friedman's book, every enterprise must consider the international implications of a flat world. This is particularly crucial for organizations that employ knowledge-intensive professionals in such fields as science, technology, engineering, mathematics, computing and medicine. Consider just one statistic found in the congressional report: "For the cost of one chemist or one engineer in the United States, a company can hire five chemists in China or 11 engineers in India."

So, the question looming for chief learning officers and heads of technical

education is this: Are we doing enough to ensure our technical talent continues to innovate and create?

Alcatel-Lucent is taking the lead to address this issue. The company has identified the area of IP Multimedia Subsystem (IMS) as the next-generation required skill set for its technical service engineers. IMS, the convergence of voice, data and video, is "the" skill set service engineers need as they support next-generation solution platforms.

Dan Simms, Alcatel-Lucent director of service readiness, has developed a partnership with University of Illinois Business & Industry Services (BIS) to customize a certificate program called "Convergence Technologies Professional" (CTP) that certifies engineers in a foundational understanding of these converging technologies.

Simms is careful to point out that he is not employed in the training/learning organization but reports through to the head of Alcatel-Lucent's worldwide service organization. But he gives CLOs some advice about creating alliances between the technical areas of their firms and learning and development:

- Build a bridge between the technical areas and L&D so each reaps the benefits of a coordinated approach to develop technical staff.
- Identify a partner that will update curricula to include areas your company deems essential for the future success of technical employees.
- Work with partners to have them include case studies from your industry. Nothing beats studying real industry issues and opportunities.

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