

The future of jobs, talent
creation, and what the
“cyber-mental age” will
mean to everyone.

By Edward E. Gordon



Talent Challenge: RENEWING THE VISION



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Not since 1950 has there been a jobs decline as long and deep as that of the current Great Recession. The bursting of the huge global credit bubble has led to the first worldwide recession since the Great Depression of the 1930s.

These economic conditions have shouldered much of the blame for the job market's continuing woes. But there are also major problems with the quality of the U.S. and global workforces. In a recent *New York Times* column, Thomas Friedman asserts that a critical reason for the continuing high unemployment is "an education breakdown on Main Street" that has radically reduced the ability of the average American worker to fill the higher skill demands of a new era in the world's labor-market economy. What roles can workplace learning and development professionals fill, today and over the next decade, to mitigate this jobs skill crisis scenario?

A new labor market era

In the run up to this recession, companies of all sizes reported increasing skilled talent shortages. By the fall of 2009, despite more than 15 million jobless American workers, Manpower's President David Arkless reported that in addition to 2.5 million help-wanted postings at least 2 million U.S. skilled jobs had been vacant for more than six months, and there were more than 2.3 million such vacancies within the European Union (EU). Even in the midst of a deep recession in the United States, much of the world suffers from a growing shortage of talent with appropriate training and education for a 21st century workforce. How will we cope once the recession ends and business hiring begins in earnest?

We are in the midst of a major global talent revolution. The world has entered one of the most remarkable watershed eras of labor-market history (Figure 1). This is the dawn of a "cyber-mental age" of ultra-high technology that will innovate as many new products and services in the next decade as in the last 50 years according to predictions of the World Future Society (2009).

The U.S. economy is now undergoing significant structural changes. New job growth seems likely to

be concentrated around export-production sectors, services, and such technology sectors as aerospace, nanotech, biotech, or other areas in which the United States has a comparative economic advantage in brainpower. The United States must keep generating the emerging technologies of this cyber-mental age that create a great proportion of high-wage knowledge jobs across America's workforce.

Three paradoxes behind a talent enigma

Today's rapidly emerging job-talent crisis is being driven by three paradoxes: a technology paradox, a people paradox, and a globalization paradox.

1. Technology paradox. The recent ASTD whitepaper "Bridging the Skill Gap" discussed the rapid acceleration of the labor-market shift from low-skill to more complex knowledge jobs. Many of these jobs are in science, technology, engineering, and mathematics-related (STEM) occupations. The U.S. Department of Labor predicts that by 2020, up to 74 percent of U.S. jobs will require a liberal arts or career-prep high school education plus some form of post-secondary career education (graduate degrees, two- or four-year degrees, apprenticeships, or special occupational certificates). Gone forever is the era of well-paying, low-skilled or semi-skilled blue-collar factory or service jobs that could provide high-school graduates, or even high-school dropouts, with a living wage over a lifetime.

2. People paradox. Much of Europe and some Asian nations are beginning to experience severe annual population and workforce declines: Germany, 100,000; Italy, 100,000; Russia, 700,000; and Japan and Korea, 50,000. In the United States, the fertility rate remains at the replacement level, but the 79 million baby boomers, who constitute a huge population bulge, will retire between 2010 and 2025. In addition, shifts in generational values are magnifying this demographic change. Generations X and Y want a different work-life balance. They and the boomers who want or need to continue to work are demanding more flexibility. Business is only beginning to adjust. Also, a widening skills gap has appeared between boomers and Generations X and Y.

The space race and arms race of the 1950s and 1960s made math and science national education priorities funded by the National Defense Act and other government programs. Though not every boomer

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became an engineer, many secured middle-level jobs, becoming what Peter Drucker labeled “knowledge technologists.” In 1969, the United States landed on the moon, winning the space race. The Soviet Union collapsed in the 1980s, ending the Cold War arms race. As a result, the national emphasis on science and math education began to languish in America’s elementary and secondary schools.

Also, high school graduation rates began to fall from 84 percent (1970) to 69 percent (2009). Overall, about 30 percent of U.S. students don’t finish high school. For the 50 largest U.S. cities, the average graduation rate is now 52.8 percent. For the first time in American history, the next generation is less educated than the generation now retiring. An insufficient number of younger Americans have a basic liberal arts background and the essential technical knowledge needed to support the growth of our advanced technical economy.

3. The globalization paradox. The United States has used two major global talent safety valves to meet its talent requirements:

- H1-B visas to import a large number of high-skill workers from other nations.

- Foreign direct investment to build and operate facilities in high-skill or high-wage countries, such as Germany, Japan, Singapore, Korea, and Canada.

These talent safety valves are beginning to fail. Both India’s and China’s economies are moving from low-skill to higher-skill products and services. Though both countries graduate huge number of technicians annually, McKinsey and Company studies and other sources indicate that only 10 to 20 percent of graduates meet world-class multi-national expectations. Both countries lack adequate higher-education-accreditation quality standards. Rural village schools provide a primitive education for most children. With a shortage of qualified talent, wage inflation has begun. Both nations have begun to call home hundreds of thousands of expatriate engineers, scientists, medical personnel, and others to fill their talent gaps.

This is having an impact on visa applications to the United States. It took only two days to close H1-B visa applications for the year 2008. For 2009 only one day was needed to fill all 66,000 slots. But at the end of October 2009, more than 20,000 visas

Figure 1 | Five Labor-Market Eras

	I	II	III	IV	V
ERA	Pre-History	The Agricultural Age	The Industrial Age	The Computer Age	The Cyber-Mental Age
TIME	100000-5000 BC	5000-1850 AD	1850-1970	1970-2010	2010-????
FOCUS	Survival	Food	Machines	Automation	Innovations
RESULT	Subsistence agriculture	Farming	Mass production	Data/robotics	Intelligent machines
PEOPLE	Irregular labor	Hand labor	Semiskilled labor	Skilled labor	Knowledge labor

were still available for 2010. India and China's days as the go-to sources of talent are over.

As we have seen, many industrial nations are beginning to experience severe yearly population declines and significant shrinkage in the size of their workforces. For example, Germany at the start of the current recession in 2008 reported that 75,000 engineering positions were vacant across the country. In many advanced economies, students are not enrolling in STEM-related career education.

This is the globalization paradox. As the recession ends, U.S. businesses will find it increasingly difficult to import enough high-skill talent or export these jobs overseas.

Global talent enigma

These are the complex components behind a global talent enigma that threatens the U.S. and world economy over the next decade. During the past 30 years, thousands of well-intentioned business initiatives and local, state, or federal funded campaigns have targeted specific talent issues. They have largely failed. Offering more of the same will not work because we now face the failure of outdated systems

that are incapable of providing a much larger pool of skilled talent.

The current education-to-employment was developed during the 20th Century industrial age (Figure 2). It is largely defined by the individual education mandates of the 50 states. These mandates are largely ill-suited to prepare a greater proportion of our students and adults for their roles in the emerging labor-market economy. These systems also place artificial barriers between the world of work and educational institutions providing career preparation, thus complicating the access of workers to the education updates needed either for their current jobs or for preparation in another career area.

If this system is not updated over the next decade, business will face the real possibility of 12 to 24 million vacant positions. As a result, Manpower Inc. predicts that 10 to 20 percent of U.S. businesses that cannot fill key positions will be forced to close.

Solutions

The demographic, technological, and global changes that are pressuring the quality of the labor supply can be alleviated by creating new systems that

will enlarge the population of skilled talent. In the United States this needs to start first in local areas, then move across entire states, and finally spread across the whole nation. Training and development professionals are already playing an important role in helping to forge local business-education-community partnerships through what I call "Gateways to the Future."

Throughout the United States and in many other nations, community-based organizations (CBOs) and non-governmental organizations (NGOs) have been at work for more than a decade on the challenge of rebuilding local education-to-employment systems for the emerging cyber-mental age. Some of these gateways are in Santa Ana, California; Fargo, North Dakota; Danville, Illinois; Penang, Malaysia; Mansfield, Ohio; Raleigh, North Carolina; Chicago; Singapore, and in many other communities as well.

These CBOs and NGOs are not-for-profit organizations that have mobilized broad networks of businesses, educational institutions, chambers of commerce, unions, workforce boards, economic development organizations, and others. They create a shared vision for making the transition to a 21st

Figure 2| Old Talent System Model

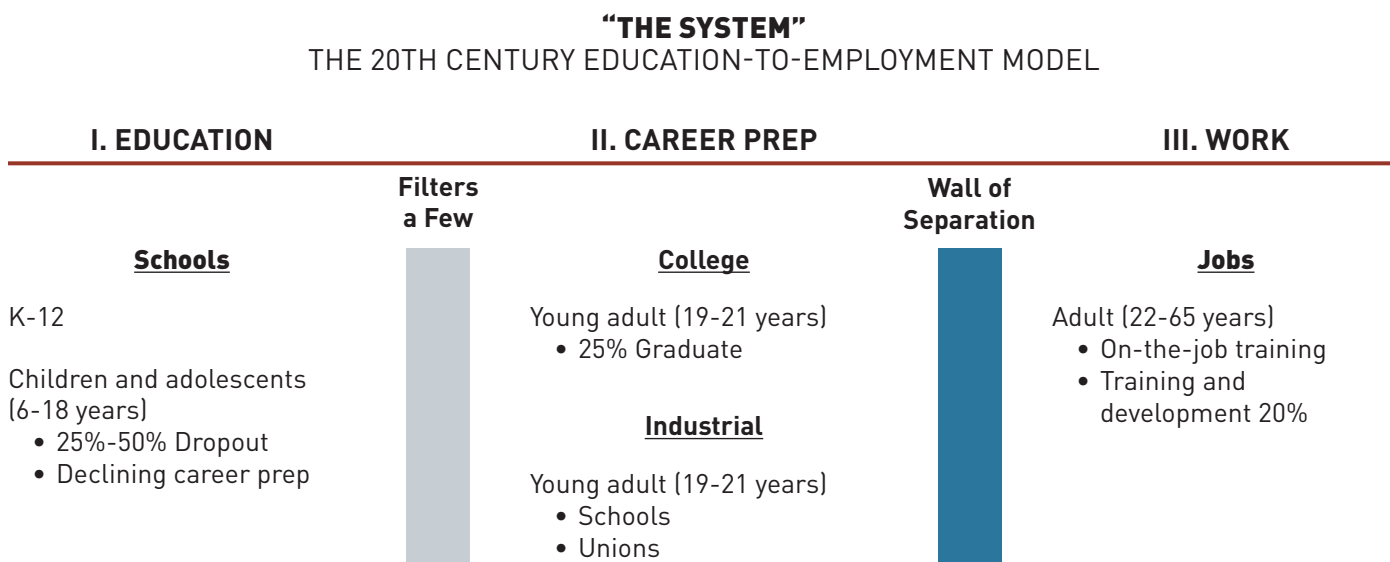
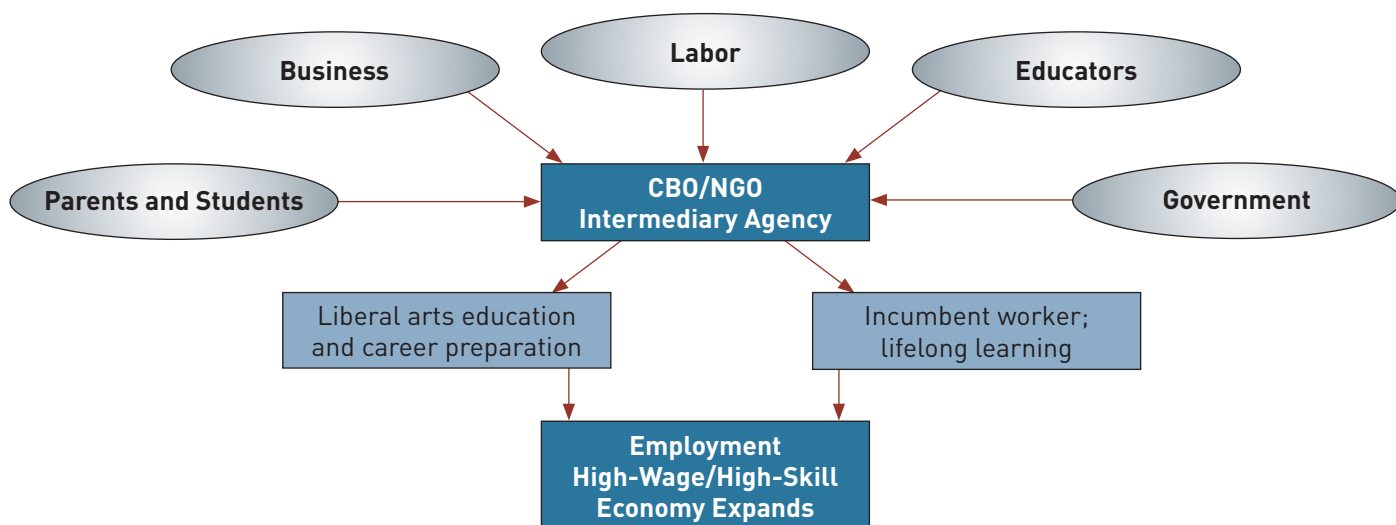


Figure 3| The CBO/NGO Shared Vision



Century talent creation system (Figure 3). Here at the grassroots level we can see the ingenuity and can-do spirit that are key ingredients in American-style capitalism.

CBOs and NGOs aim to rebuild the talent pipelines that sustain a community's competitive businesses while helping to attract new start-ups. Their goal is to help create more higher-skill and higher-wage jobs for their region. Tens of thousands of local businesses are making significant financial investments that tie worker retraining, K-12 career education

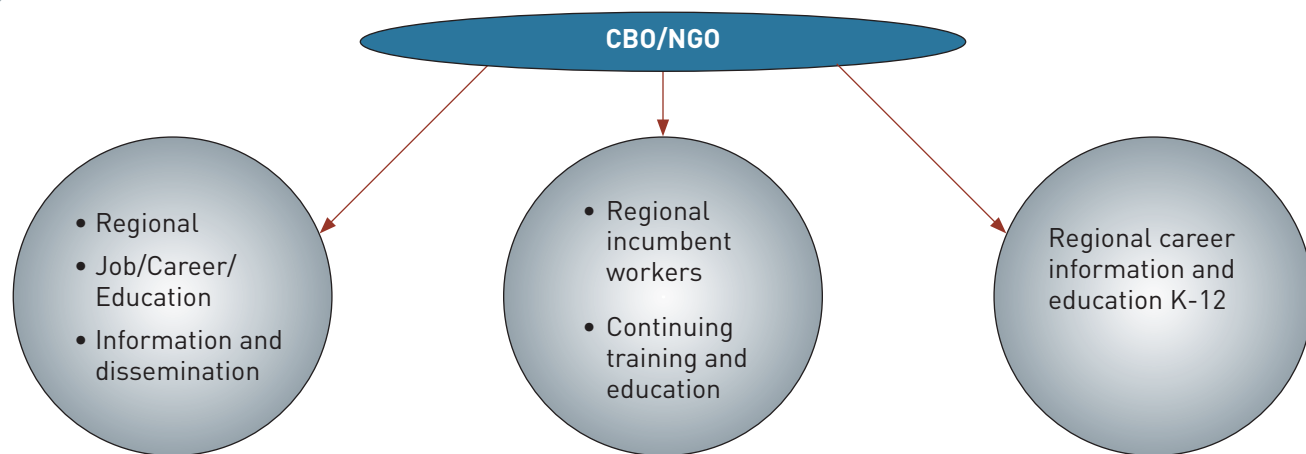
programs, career academies, and higher education programs together as a lifelong system of learning (Figure 4).

Today's employers also need to put significant resources into internal education and training programs. Performance and productivity for a knowledge-based economy demands continuous job skills updates that keep pace with the rapidly changing technology in all business sectors. Yet over the past year, U.S. businesses have reduced their talent development investments.

In this time of high unemployment

and business uncertainty, changing accounting standards to encourage more business investment in training seems one avenue worth exploring. Businesses should be allowed to capitalize investments in training, development, education, and internships just as they can now capitalize investments in plants and equipment. These changes in U.S. accounting standards would provide an impetus to increase such business investments now at \$53 billion (2009) to more than \$100 billion by 2020.

Figure 4| What CBOs/NGOs Do



Other later activities:

- Welfare-to-work (single parents)
- Housing (low-cost, subsidized)
- Criminal justice employment
- Disabled employment programs
- Immigrant education programs

The current high unemployment rate presents as urgent a challenge as the space race and arms race of the 1950s and 1960s. We need to mobilize similar systemic-change efforts to prepare more students and incumbent workers for STEM careers in growing high-tech industries. Only if the United States develops the talent system to staff millions of new start-up companies will we invent and develop new products and services that will produce higher-paying jobs across the nation.

What will a new open education-to-employment system look like (Figure 5)? It will provide better opportunities for more people to develop their talent for multiple careers and jobs over a lifetime.

At the local level, training and development professionals will be key players as more CBOs and NGOs are organized across America. You are the best spokespersons on how to better educate incumbent workers.

Throughout the next decade, you will help invent these new talent creation models. Each state will then mandate a new education-to-employment system based on what has worked in its local communities.

Talent is the United States' most renewable resource. The real challenge worldwide for training and development professionals is developing your role to help recapture the hope and vision of business needs that will accelerate the expansion of local talent creation to fill the exciting career opportunities of a new cyber-mental age. **T+D**

This article is adapted from a recent presentation that Ed Gordon gave to the Federal Reserve. *Winning the Global Talent Showdown* is available at store.astd.org.

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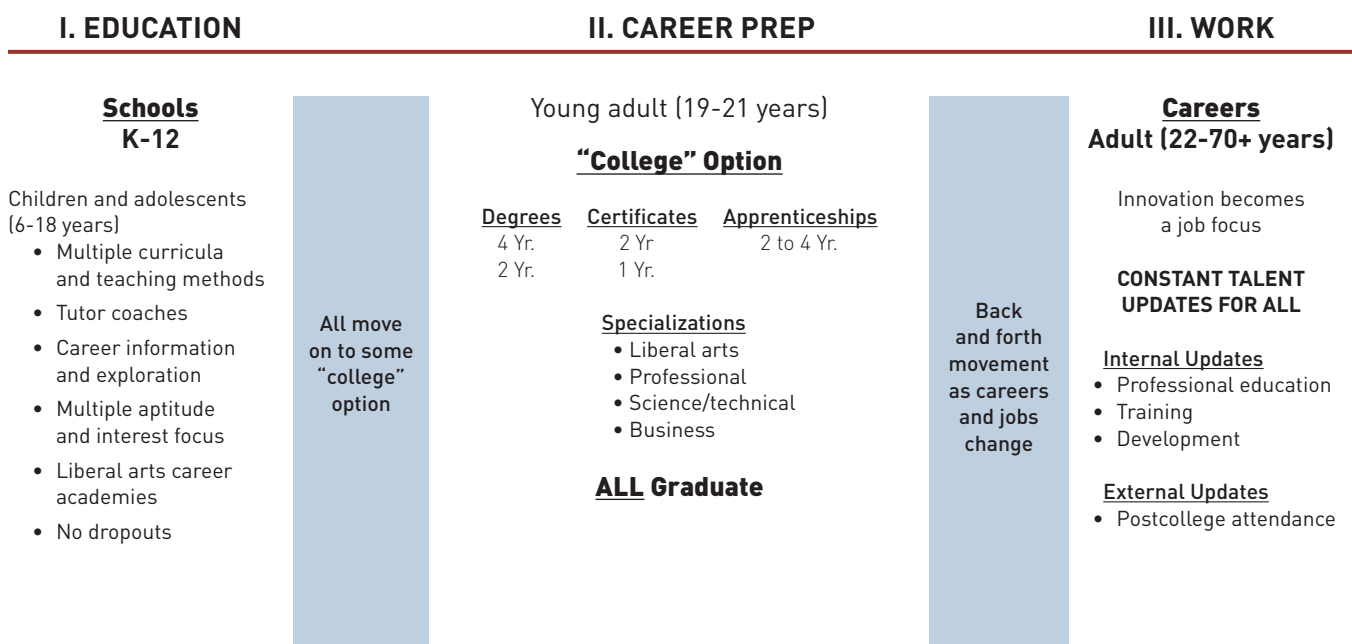
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Figure 5|

THE NEW SYSTEM FOR THE 21ST CENTURY: OPEN EDUCATION-TO-EMPLOYMENT MODEL





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