BRIDGING
the Skills Gap

Help Wanted, Skills Lacking: Why the Mismatch in Today's Economy?

ASTD
CAREER DEVELOPMENT
COMMUNITY

About ASTD

ASTD (American Society for Training & Development) is the world's
largest association dedicated to workplace learning and development
professionals. ASTD's members come from more than 100 countries
and connect locally in more than 120 U.S. chapters and with more than
20 international partners. Members work in thousands of organizations
of all sizes, in government, as independent consultants, and suppliers.

Started in 1943, in recent years ASTD has widened the profession's focus
to link learning and performance to individual and organizational results,
and is a sought-after voice on critical public policy issues.

Contents

WELCOME

Learning professionals, business leaders, and managers,

Thank you for your interest in *Bridging the Skills Gap.* This is the fourth update ASTD has published on this topic, and in this paper we examine the impact of the economic recovery, the jobs pipeline, and the role of training and education to help narrow the skills gap.

Recent news headlines paint a daunting picture:

Community college programs help fill skills gap in U.S. (*USA Today*, 04/09/2012)

The Skills Gap: A Quick Note (*Forbes*, 06/08/2012)

Does a Skills Gap Contribute to Unemployment? (*New York Times*, 07/09/2012)

The skills gap: Myth or reality? (*Star-Tribune*, 08/05/2012)

8 Steps for Closing the Skills Gap (*Huffington Post*, 08/21/2012)

Solving the Manufacturing Skills Gap (*The Atlantic*, 09/06/2012)

Skills gap is hampering labor market (*The Hill*, 09/09/2012)

While stories like these and others provide context about skills shortages across many industries, we hope the action plan in this paper gives readers a step-by-step approach to tackle this challenge within their organizations. The case studies provide a look at how some organizations are creatively addressing this challenge head-on.

I appreciate the hard work of the ASTD Public Policy Council on this project, especially Patty Claghorn, Bill Docalovich, Steve Feinstein, Michael Ferraro, Winnie Larsen, and Katica Roy for their help in pulling together research about this important topic. And special thanks to former council members Gail Hansen and Jeanette Winters for their expertise and contributions to the action plan. We look forward to engaging with you on this paper and the recommendations provided.

Thank you for your dedication to develop the knowledge and skills of employees and for your contributions to the ASTD community. Together we can give voice to this critical topic and help organizations achieve success by building a highly skilled workforce.

Best regards,

Steve Sitek
2012 Chair, ASTD Public Policy Council

ASTD PUBLIC POLICY COUNCIL

2012 Chair
Steve Sitek
Learning & Education,
US NPC Ethics & Compliance
Novartis Pharmaceuticals Corporation

Patricia Claghorn
Dean, Continuing Education
Gloucester County College

Bill Docalovich
Director, Trades Services
Huntington Ingalls Industries

Steve Feinstein
Education & Document Manager
U.S. Epperson Underwriting Co.

Terry L. Hansen
Manager, Public Partnerships
IBM Corporation

Winnie Larsen
Senior Director, Learning
General Studies College Dean
Global Talent Management
Hilton Worldwide

Johari Rashad
Director, Center for Innovative
Learning & Professional Growth
Employee Services
Office of Personnel Management
(OPM)

Katica Roy
Senior Manager, Curriculum
Management
Health Plan Institute
Kaiser Permanente

Public Policy Advisor
C. Michael Ferraro
President/CEO
TRAINING SOLUTIONS, Inc.

Staff Liaison
Jennifer Homer
VP, Communications
& Career Development
ASTD

INTRODUCTION

This report is the fourth from ASTD to cover the growing importance of talent to organizational performance and the skills gap that threatens so many organizations today. *The Human Capital Challenge* (2003), ASTD's first whitepaper to address skills shortages, made the connection between knowledge capital and organizational success. In 2006, the initial *Bridging the Skills Gap* described how skills shortages threaten growth and competition, and recommended roles for individuals, organizations, and government in creating solutions to a growing problem. In 2009, ASTD published a revised edition, *Bridging the Skills Gap: New Factors Compound the Growing Skills Shortage*, which examined the impact of job losses during the Great Recession and the influence of Web 2.0 and the Net Generation on workforce skills. The 2012 edition of *Bridging the Skills Gap* updates the picture with the jobs outlook in today's recovering economy, looks at the role of training and education, and explains the need for collaboration among all sectors responsible for filling the jobs pipeline.

> **Despite a large pool of unemployed workers, employers continue to struggle to find skilled talent to fill the growing number of job openings in the country.**

## WHAT IS A SKILLS GAP AND WHY DOES IT EXIST?

ASTD defines a skills gap as a significant gap between an organization's current capabilities and the skills it needs to achieve its goals. It is the point at which an organization can no longer grow or remain competitive because it cannot fill critical jobs with employees who have the right knowledge, skills, and abilities.

It is not just individual organizations or sectors that are feeling the consequences of the skills gap. Communities, states, regions, and entire nations pay a heavy price when they cannot find or equip workers with the right skills for critical jobs.

The McKinsey Global Institute June 2012 report, *The world at work: Jobs, pay, and skills for 3.5 billion people*, predicts a potential global shortage of 38 to 40 million high-skills workers in 2020 (13 percent of the demand for such workers) and 45 million middle-skills workers (15 percent of the demand). Low-skills workers will be in least demand at 10 percent, a shortage of 90 to 95 million.

On a national level, the state of employment continues to play a major role in the United States skills scene. At 8.3 percent in July 2012, the unemployment rate has gradually decreased during the past three years after hitting 10 percent in October 2009. While the number of unemployed workers remains fairly high, the number of job openings is on the rise, with 3.8 million in June 2012, compared to 3.1 million in June 2011. Despite a large pool of unemployed workers, employers continue to struggle to find skilled talent to fill the growing number of job openings in the country.

A recent survey of ASTD members supports this trend: 84 percent of respondents indicate that there is a skills gap in their organization now, up from 79 percent in 2009 when ASTD conducted the same survey. Almost 10 percent of respondents don't know whether there is a skills gap in their organization now.

Is there a skills gap in your organization now?

9.6%

6.4%

84%

- Yes
- No
- Don't Know

n=377
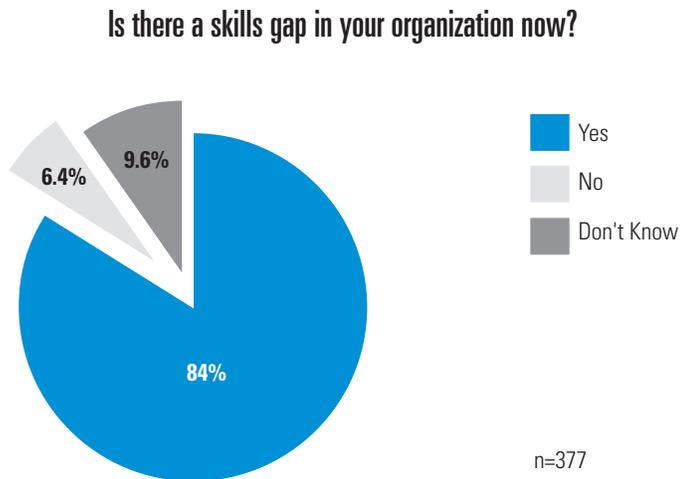
WHAT ARE THE BIGGEST GAPS?

Middle- and high-skills jobs comprise the largest gaps. Middle skills describe highly specialized mechanical, technical, and production careers that may require industry or government certification but not necessarily a bachelor's degree. Growing middle-skills industries such as manufacturing, construction, and healthcare are facing the most significant skills shortages. Employers in high-skills STEM fields (science, technology, engineering, and math)—which require at least an undergraduate degree—also will be hard-pressed to find adequate talent in coming years.

Take the nuclear industry, for example. Cumulative installed nuclear capacity worldwide is expected to increase at a compound annual growth rate of 3 percent from 2011 to 2020. Yet a mass of retiring employees, combined with the young workforce's waning interest in the field and a deficit of training programs in general, have contributed to the industry's growing skills gap. "There's a need to train and develop a skilled workforce in the nuclear value chain—across the entire industry," says Jennifer Santos, the head of Power Consulting Services at GlobalData. "All areas are requiring a massive number of employees and the right quality of skills." These areas include construction, maintenance, safety, decommissioning, and research and development.

" 84 percent of respondents indicate that there is a skills gap in their organization now. "

Information technology is another evolving high-skills field that needs qualified workers to keep pace with its ongoing change. According to CompTIA, more than 15 million businesses rate the aggregate skill levels of their IT staff as less than optimal, and 93 percent of employers indicate that there is an overall skills gap among employees. In its 2012 *State of the IT Skills Gap*, the computing technology association cites the top industry skills gap concerns: networks/ infrastructure, server/data center management, storage/data back-up, cybersecurity, database/information management, and web design/development. The dynamic nature of the IT space is a primary cause of talent shortages, as well as a lack of resources for professional development.

> " According to CompTIA, more than 15 million businesses rate the aggregate skill levels of their IT staff as less than optimal, and 93 percent of employers indicate that there is an overall skills gap among employees. "

These causes translate to middle-skills industries as well. Retiring workers, the impact of the recession, and an insufficient pipeline of new workers are the main factors contributing to a mass construction skills shortage. McGraw-Hill Construction (MHC) forecasts that non-residential construction projects will grow 73 percent by 2015. Such growth has serious implications for the availability of skilled construction workers, especially in the areas of trade and engineering.

Additionally, MHC's 2012 *Construction Industry Workforce Shortages* report highlights the impact of a growing green skills job market: 35 percent of the industry held green jobs in 2011, compared to a predicted 45 percent in 2014. The sector already is experiencing challenges finding skilled green workers, with 86 percent of architecture/engineering firms and 91 percent of general contractors reporting that these employees are difficult to hire.

Unlike construction, the manufacturing industry has shrunk by one-third of its size during the past decade, with a loss of nearly 4 million jobs. Yet this loss has not yielded a surplus of in-demand factory workers because automation has transformed factories and altered the skills needed to successfully operate and maintain equipment. According to a recent *Washington Post* article, as the economy recovers and outsourced jobs return to the United States, laid-off workers who filled factories years ago find themselves unqualified for today's manufacturing roles. Additionally, Baby Boomers continue to retire, and younger generations entering the workforce are not choosing manufacturing as a vocation. Deloitte's report, *Boiling point? The skills gap in U.S. manufacturing*, affirms these claims: 67 percent of surveyed U.S. manufacturing executives report a moderate to severe shortage of available, qualified workers; and 56 percent anticipate the shortage to grow worse in the next three to five years.

In addition to industry skills gaps, employers are observing a lack of critical soft skills—such as communication, collaboration, creativity, and critical thinking—in today's workforce. "These soft skills continue to exist even with the U.S.'s persistent unemployment," according to *The Skills Gap: Reversing Washington's Lack of Skilled Workers Through Early Learning*. "In a 2010 survey of 2,000 executives conducted by the American Management Association, nine in 10 executives said these enhanced soft skills are important to support business expansion, but less than half of those executives rated their employees as above average in those skills."

Data from ASTD's member survey shows that leadership and executive skills, managerial and supervisory skills, and profession- or industry-specific skills are ranked as the highest areas for skills gaps. It is important to note that managerial and supervisory skills are of most concern to the majority of respondents: they ranked skills in this area as the first or second biggest gaps.

What are the specific skills gaps that your organization is experiencing now?
Respondents were asked to rank their top three choices.

Skill	Ranked 1	Ranked 2	Ranked 3
Leadership/executive-level skills	54%	18%	24%
Basic skills (the traditional building blocks of business-level competencies that are most commonly associated with elementary language arts and mathematics)	5%	14%	7%
Profession- or industry-specific skills	37%	32%	19%
Managerial/supervisory skills	38%	48%	28%
Customer service skills	8%	13%	20%
Communication/interpersonal skills	16%	26%	33%
Technical/IT/systems skills	17%	16%	13%
Sales skills	9%	12%	5%
Process and project management skills	17%	27%	44%
Other	6%	1%	14%

■ Ranked 1   ■ Ranked 2   ■ Ranked 3   n=377

ORGANIZATIONS CITE REASONS FOR THE SKILLS GAP

Respondents to ASTD's member survey report the top reason for the skills gap is that the skills of the workforce don't match company strategy, goals, markets, or business models. This was followed closely by a lack of bench strength in the company's leadership ranks. Also coming in high on the list of reasons for the skills gap is less of an investment in training, or a lack of support for employee learning and development.

Why is there a skills gap in your organization?
Respondents were asked to rank their top three choices.

Reason	Ranked 1	Ranked 2	Ranked 3
Skills of the current workforce do not match changes in company strategy, goals, markets, or business models	58%	40%	46%
Not enough bench strength in the company's leadership ranks	55%	48%	22%
Recent merger/acquisition where the organization brought in new employees or current employees are not up-to-speed on the new industry	8%	12%	9%
Training investments have been cut or there is a lack of commitment by senior leaders to employee learning and development	41%	36%	46%
When hiring for certain types of jobs, there are too few qualified candidates (i.e. a gap in the pipeline)	30%	35%	38%
Lack of skilled talent in one or more of the company's lines of business	18%	39%	49%

Ranked 1   Ranked 2   Ranked 3   n=377

IMPACT OF THE SKILLS GAP

The impact of the skills gap is far reaching and varied, with effects on global economics, human capital development, and business performance. In advanced economies, skill imbalances will lead to more long-term and permanent joblessness and a greater polarization of incomes between high- and low-skilled workers. Developing economies likely will slow their climb into higher value-added industries and see millions of low-skilled workers trapped in subsistence agriculture or urban poverty.

As far as bottom-line impact, many industries feel the effects of a skills shortage in similar ways. CompTIA's *State of the IT Skills Gap* report notes that 80 percent of information technology employers indicate that their industry's skills
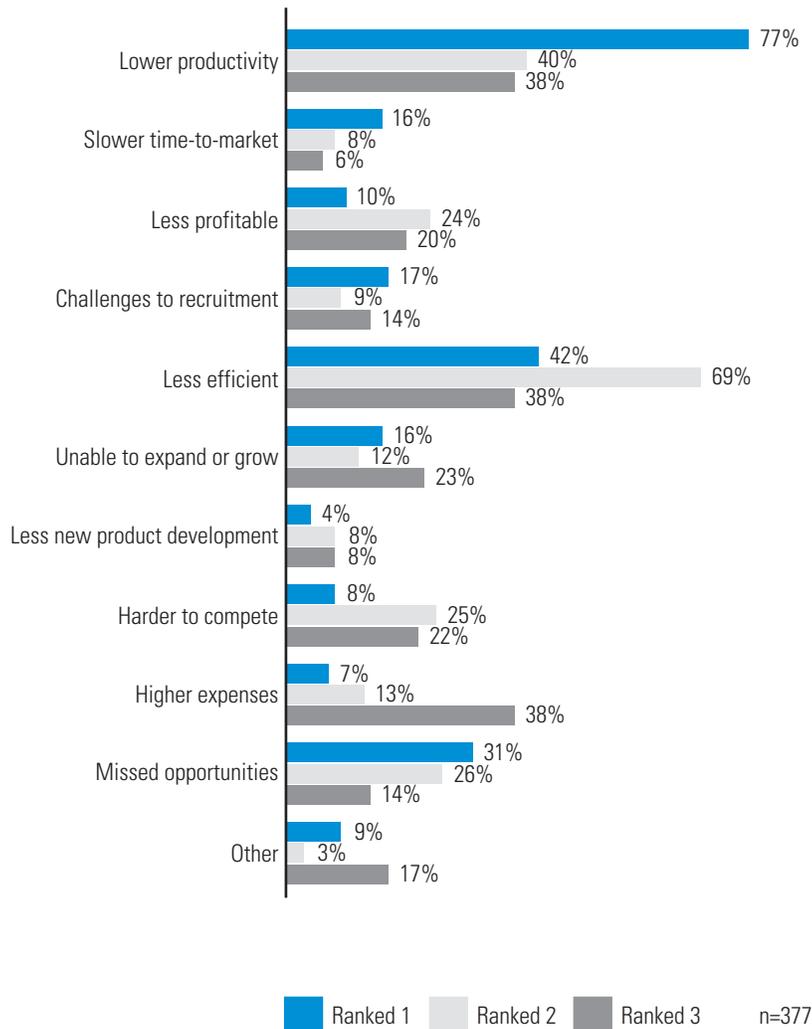
gaps affect at least one business area, such as staff productivity (41 percent), customer service/engagement (32 percent), and security (31 percent). Workforce shortages and skills deficiencies in production manufacturing roles are significantly impeding the sector's ability to expand operations and improve productivity.

According to AAR Corp's *The Mid-Skills Gap in Middle America*, "Skills gaps can translate into slower growth, high on-the-job training costs, and lost productivity." They form a barrier to middle-income jobs, create an inability to compete and expand, and compromise industry's ability to build a pipeline of workers.

Data from ASTD's member survey support these findings. Lower productivity and lower efficiency top the list of business impacts of the skills gap, followed by missed opportunities for the organization.

What are the business impacts of having a skills gap?
Respondents were asked to rank their top three choices.

	Ranked 1	Ranked 2	Ranked 3
Lower productivity	77%	40%	38%
Slower time-to-market	16%	8%	6%
Less profitable	10%	24%	20%
Challenges to recruitment	17%	9%	14%
Less efficient	42%	69%	38%
Unable to expand or grow	16%	12%	23%
Less new product development	4%	8%	8%
Harder to compete	8%	25%	22%
Higher expenses	7%	13%	38%
Missed opportunities	31%	26%	14%
Other	9%	3%	17%

Ranked 1   Ranked 2   Ranked 3   n=377

THE ROLE OF TRAINING AND EDUCATION

High unemployment and a shortage of skilled talent sound like contradictory concerns, yet they are co-existing realities for the 2012 workforce. MHC suggests a cause for this conundrum, and a solution: "The low levels of employment during the recession actually may mask the way that changes in the industry, especially the growing green job market, require new skills and better training. Certification of employees is one effective way in which the industry can respond to these rising needs." As high-skills jobs become more specialized, earning certifications is a viable solution for educated workers to hone their existing knowledge.

Anthony Carnevale, Nicole Smith, and Jeff Strohl of Georgetown University's Center on Education and the Workforce believe that, due to growth in technology across many business segments, workers require more post-secondary development for success in today's workforce. They define post-secondary education as two- and four-year education institutions, employer-provided formal training, and employer-provided informal training. In *Help Wanted: Projections of Jobs and Education Requirements through 2018*, the authors predict that—in its current state—post-secondary education will under-supply candidates for 3 million jobs by 2018.

> In *Help Wanted: Projections of Jobs and Education Requirements through 2018*, the authors predict that—in its current state—post-secondary education will under-supply candidates for 3 million jobs by 2018.

However, formal post-secondary education is not the best skills development solution for all job openings. The Bureau of Labor Statistics reports that eight of the 10 top growing occupations through 2014 do not require a bachelor's degree. Instead, skills certificates, on-the-job training, and apprenticeship programs are relevant and practical methods for developing middle skills. In its June 2012 report, *Let's Get Serious About Our Nation's Human Capital*, the Center for American Progress claims that the United States needs to help an additional 1 million low-skills workers per year earn associate's degrees, technical certificates, or industry-recognized credentials to close the projected shortfall in middle-skills workers.

Of course, the onus for developing the skills necessary for the future workforce is not on the employer alone. *The Skills Gap: Reversing Washington's Lack of Skilled Workers Through Early Learning* makes a case for education reform beginning with early learning: "Education reform must occur if we are going to prepare young people to enter the workforce with the skills and education businesses will require. But we must understand that education reform cannot only be limited to K–12 and post-secondary education. Quality early care and education is the foundation upon which success in school and later in the workforce is built. Policy-makers and the public must shift their thinking and incorporate early learning in any education reforms our country implements."

THE ROLE OF THE PIPELINE

While both targeted training and education are necessary for closing the nation's skills gaps, these efforts have minimal long-term impact when treated as isolated events. It is incumbent upon the entire pipeline to identify job openings and skills needs and work together to meet these deficiencies. *The Mid-Skills Gap in Middle America* identifies four essential stakeholders critical to informing, funding, advocating for, and building successful public-private partnerships to enhance the skills pipeline: government (via policy decisions, agencies, and flexible mandates), private sector businesses and industry associations, educational and training institutions (K–12 and two- and four-year colleges), and nonprofit intermediaries. According to the report, "Engagement by all four is necessary to address the disconnect between government, education, and the needs of the business."

Businesses are beginning to realize the importance of collaborating with local education institutions, and vice versa. "Colleges need businesses to serve as working advisors so that curriculum has relevance and value for their organizational goals and employees' knowledge and skills," says Patricia Claghorn, Dean of Continuing Education and Institutional Advancement for Gloucester County College (GCC) in Sewell, New Jersey.

Since 2006, GCC has been partnering with LaBrea Bakery, one of the largest and most renowned bakeries of artisan breads in the United States, to provide its employees with a full spectrum of training services. This cooperation created a new business training focus for the college, which has already provided more than 7,000 units of training to employers in courses such as food supply and bioterrorism, hazard analysis and critical control point certification, and allergen awareness.

The University of Phoenix School of Business is another higher education institution that understands the need for collaboration throughout the jobs pipeline. The school relied on its partnership with the Manufacturing Institute and industry leaders when developing a manufacturing concentration for its bachelor of

science in management degree program. It built the curriculum around the skills U.S. manufacturers have identified as vital to the future of the industry.

Saint Joseph's College of Maine (SJC) is an active member of the Maine Development Foundation. The foundation's Maine Employers Initiative—a group of business people committed to taking the state's workforce to the next level through education—focuses on how higher education and employers can work together to increase the education level of the state's employees. "The Maine population is aging, and a great number of college students are graduating and leaving the state," says Lynne Robinson, Executive Director of Business Development and Continuing Education and Training at SJC. "Member companies are committed to making education accessible to their employees."

In addition to post-secondary education providers such as community colleges, vocational schools, and four-year institutions, the public workforce system is another critical partner in helping to narrow skills gaps. The original Workforce Investment Act (WIA) passed in 1998 set up the federally funded public workforce system designed to help individuals obtain the skills and training needed to be employable, and to help organizations find skilled workers to employ. WIA also set up the infrastructure for Workforce Investment Boards (WIBs) at the state and local levels, and the more than 3,500 OneStop Career Centers around the United States.

THE ROLE OF THE PUBLIC SECTOR

Government at all levels plays an important role in helping organizations find knowledgeable, skilled workers; helping individuals access the training and education they need to get a job; and assisting industries through funding and by setting policies for partnerships to develop the skills of the current and future workforce.

Today, OneStop Career Centers serve many more citizens than before, helping individuals from all income and education levels to access the skills and knowledge they need to prepare them for new opportunities. Businesses benefit from engaging with their local OneStop Career Centers and WIBs by tapping into a pool of qualified potential employees, partnering on recruitment efforts, or identifying funding opportunities to support their training efforts. Increasingly, the public workforce system has become an important resource for individuals seeking jobs and for organizations looking for qualified talent or partners with whom they can work.

To more effectively assist individuals and organizations to narrow the skills gaps, the public workforce system can provide more guidance in navigating complex training programs and policies. This can be achieved by simplifying the steps to access the public workforce investment system and by increasing awareness about the services available to workers (both incumbent and dislocated individuals) and organizations. Here are several recommendations:

- » Link economic development, education, and workforce development more closely, and directly tie their programs and services to the needs of employees.

- » Public policy makers should reauthorize the Workforce Investment Act, which could improve the law by legislating better local representation by the education, economic, and workforce development communities, and by providing greater flexibility in allocating federal training dollars.

- » Government agencies should simplify and standardize processes for accessing public sector training dollars so that stakeholders can navigate them more easily, and better coordinate their use of its training programs.

- » Public policy makers should provide support to organizations and individuals for lifelong learning through training tax credits, education savings accounts, and tuition assistance.

- » Educational institutions at all levels should continue to development partnerships with employers to advise on the skill needs for their students.

With all of these partners helping, individuals can obtain the skills they need for engaging, challenging, and well-paid work, while fulfilling their responsibilities to further their development. By connecting to and partnering with all levels of government and accessing training resources, organizations benefit by attracting skilled, knowledgeable, and adaptable workers.

AN ACTION PLAN TO TAKE CHARGE OF THE SKILLS GAP

Organizational leaders should look to their learning professionals to help identify the skills and competencies needed now and in the future and to align their development to key drivers for the organization. The following action plan identifies six steps for taking charge of skills gaps.

STEP 01
UNDERSTAND THE ORGANIZATION'S OR UNIT'S KEY STRATEGIES, GOALS, AND PERFORMANCE METRICS

Be sure you know the answers to the following questions and can articulate the connection between performance goals and employee capability.

» What factors in the economy, culture, or market most influence your organization?

» What are the organization's key strategies and goals, and performance metrics for those?

» What business functions have the most impact on the success of the organization?

» Which roles within those units have the most impact on the current and future success of the organization?

» What capabilities must employees at all levels have to be able to meet the performance metrics?

» How robust are the HR systems and reporting capabilities for monitoring performance, business results, and employee capabilities?

» How is the organization's business and leadership model communicated throughout the organization?

» How engaged and committed are the organization's leaders to tackling this challenge through an investment of people, processes, and systems?

» How are the demographics of the organization's workforce changing, and what impact will they have on knowledge, skills, and behaviors?

» What is the state of the supply chain of talent for the business or industry, given specific strategies?

STEP 02
IDENTIFY COMPETENCIES AND SKILLS THAT MAP TO STRATEGIES AND PERFORMANCE METRICS

» Identify the core competencies for the organization's workforce and business unit most critical to the organization's success.

» Identify current needs as well as those for the next one to three years.

» Working with leaders of core business functions, determine which skills and competencies their employees need to be able to meet key goals and be effective at implementing key strategies.

» Map current and future competencies to current and future strategies and goals.

» Identify the priority job(s) to develop the functional competencies required for job success.

» Identify which skills and competencies are required for meeting desired performance standards, in what time frame, and how they will be measured.

STEP 03
ASSESS THE SKILLS GAP

» Define the scope of how the organization will address the gap (organization, division/unit, or individual), and consider starting with one function or business unit as a pilot.

» Use analytical tools, such as impact mapping, to identify performance behaviors required to meet specific goals.

» Conduct a capability audit to determine where gaps exist in employees' knowledge, skill, or behavior.

STEP 04
SET GOALS AND PRIORITIZE THE PATH TO FILLING GAPS

» Establish baseline measures of employees' current skills.

» Set goals for closing gaps between existing skill sets and those needed to support current and future goals.

» Determine which paths to take to fill particular gaps: outsourcing, hiring, training and development, coaching and mentoring, and so on.

» Determine how results in filling skills gaps will be measured.

» Create an internal communication plan to educate and involve managers and employees in programs to close skills gaps.

STEP 05
IMPLEMENT SOLUTIONS

» With key leaders in the organization, prioritize solutions and secure funding and resources needed to do the work.

» Connect with your local Workforce Investment Board (WIB) to identify opportunities to partner, and to access training funding that can assist your organization in addressing skills gaps.

» Led by the organization's learning function, create an organization-wide plan to address skills gaps.

» Prioritize what the organization can implement and sustain, even if there are disruptions, changes, and challenges to the organization.

» Ensure there is senior leadership buy-in and engagement in every step of implementation and communication, and that they are participating as teachers.

» For identified knowledge or skill gaps, create learning and development opportunities using appropriate delivery options and leverage all forms of learning: formal, informal, and social.

» Create individual learning plans and paths for employees. Have systems in place to measure and document skills and competencies before, during, and after training and development. Link all learning and development goals to the organization's skill needs and priorities.

» Have a balance of quick wins, medium-term successes, and longer-term development so that measurement of success can begin immediately. Look for both leading and lagging indicators.

STEP 06
MONITOR AND MEASURE RESULTS AND COMMUNICATE THE IMPACT

» Be prepared to demonstrate how closing the skills gap has increased organizational performance, while improving productivity and reducing costs.

» Ensure the measures are truly aligned with the organization's measures of success.

» Use assessment tools to measure progress before and after learning and development takes place.

» Identify a successful stakeholder—work with that person to communicate the results.

» Communicate progress and results regularly to all stakeholders.

» Consider these questions:

  » Did the solutions implemented have a measureable effect on narrowing skills gaps in the organization and making it more effective?

  » Did the results meet expectations and demonstrate progress?

  » Is the organization's workforce better equipped to meet key goals and implement strategies?

  » What business results can be attributed to improvements in skill, knowledge, or desired behavior?

CASE STUDIES

01 BUILDING ENGINEERING CAPABILITY AT DELTEK

Deltek is the leading global provider of enterprise software and information solutions for professional services firms and government contractors. For decades, the company has delivered actionable insight that empowers customers to unlock their business potential. There are 15,000 organizations and 2 million users in more than 80 countries around the world that rely on Deltek to research and identify opportunities, win new business, optimize resources, streamline operations, and deliver more profitable projects.

Establishing the Skills Gap

The Deltek office in Makati, Philippines houses more than 150 engineers who develop products and solutions. While these engineers are extremely talented, they did not fundamentally understand the purpose of the solutions they developed or even how customers would use them. The main challenges were:

» The engineers—comprised of the system developers, testers, and designers—didn't have proper training on the products and processes needed for the holistic appreciation of the products they built, tested, and designed.

» Training was previously accomplished by self-learning and by informal product knowledge sharing sessions conducted by subject matter experts (SMEs), most of whom were based in the United States.

» Training sessions were done virtually by SMEs from the United States; however, the 12- to 13-hour time difference between the two locations made it difficult to train in a timely manner.

» Employees felt that they didn't get the training that they needed to perform their jobs, as evidenced by the low scores they gave on "Training & Development" during Deltek's HR Employee Survey.

To minimize the challenges associated with training, in 2011 Deltek created a dedicated, Makati-based internal training program called Employee Education. Led by a senior director in the United States, the team began with only four members and quickly grew to 10. With this team in place, a comprehensive learning strategy was created to address the needs of the engineers and it included the development of several learning solutions.

Addressing the Gap

Individual Development Plans (IDPs) were developed for every engineer. "What began as a basic pencil-to-paper process was quickly redesigned by a talented engineering manager as a more visible, comprehensive online system—one that identified current knowledge, required knowledge, and would be able to address the skills gaps on a quarterly basis,"

said Pat Golden, Senior Director for Deltek University. "To shore up the access to product knowledge, an employee learning portal for product knowledge was created, which acted as a central repository of product links and references for employees."

Additionally, SME profiles were made readily available on the portal to provide individual contributors with immediate access to the subject matter expert's contact information. With the contacts arranged by product, the engineers were more confident about the solutions; to learn a new feature, the SME would now only be a phone call or an email away.

Taking into consideration that most of Deltek's SMEs are located in the United States, the Makati employee education team created a Junior Advisor Group (JAG) to grow future Deltek SMEs in Makati. This six-month program requires participants to go through a skills enhancement curriculum and then conduct formal product learning sessions to mentees. The skills enhancement curriculum includes topics that are focused on honing necessary business skills, such as adult learning principles, active listening, and assessment skills. The JAG takes responsibility for the mentees' development and demonstrates leadership by managing the entire mentor/mentee relationship.

The Results

After the transformation, "Training & Development" is now ranked fourth in the "Top 10 Reasons to Work at Deltek," based on surveys conducted by Deltek's HR team. In 2012, Deltek Makati was also awarded the title of one of the Best Employers in Asia in the third Asia's Best Employer Brand Awards. The specific category in which Deltek Makati was nominated and won recognizes organizations that demonstrate excellence in building the employer brand. Finally, Deltek was also named a finalist in the 2012 Helios Apollo awards, recognized for its approach to tremendous employee development.

As a result of identifying skills gaps each quarter, the Deltek Engineering program has quickly grown to include soft skills and team building. Engineers now receive product knowledge training, basic accounting fundamentals, communications, and other soft-skills training—resulting in greater employee satisfaction, more engaged employees, and improved product knowledge skills. As a result of all the learning solutions implemented, the engineers have continued to improve their skills with product knowledge, positively impacting their ability to deliver higher quality systems.

STUDY
02 CRITICAL WORKFORCE DEVELOPMENT FOR U.S. MANUFACTURERS

The Manufacturing Extension Partnership (MEP), within the National Institute of Standards and Technology (NIST) and housed within the United States Department of Commerce, is tasked with helping small and medium-sized manufacturers—those with fewer than 500 employees—understand how investments in workforce development pay off and how to implement corporate training that helps them become successful high-tech innovators.

With support and encouragement from the highest levels of the U.S. Administration, MEP supports and encourages innovation and growth for small manufacturers, and collaborates with many partners, such as other U.S. federal agencies, community and technical colleges, manufacturing collaborations, and professional associations.

Establishing the Skills Gap

While much of the global economy is now working through some of its most chaotic changes in several generations, manufacturing has had a similar struggle for the last 20 years. Changing business models, technological innovations, capital financing, environmental science, demographics, and education have put manufacturing through the maelstrom. Add to that difficulty to compete with manufacturers in other countries; less of a focus on teaching science, mathematics, and engineering in schools; and less of an interest in manufacturing as a student career choice from parents or teachers, a "perfect storm" has been created for the manufacturing sector.

The recent recession accelerated the urgency around new education and training models to keep up in the global, digital economy as businesses from retail to banking to healthcare to manufacturing adapted to the new economic and technological circumstances.

Now, as manufacturing comes back in the United States, there are an estimated 600,000 manufacturing jobs that can't be filled, hindering the U.S. economic rebound at a national level, but also at an individual level as job seekers realize they don't have the necessary skills for high-tech manufacturing jobs.

Addressing the Gap

MEP is focusing on workforce development in two primary ways: 1) by providing training in innovation engineering (innovation as a manageable process), and 2) by helping manufacturers analyze how business goals align with the hiring, training, and managing their workforces. The goal is for small manufacturers to understand that workforce is a system inside their operations much like the production system or the accounting system. And by gathering data on workforce investments and outcomes, a manufacturer can make decisions based on business goals, rather than temporary circumstances (such as the loss of an employee or quick customization of a product). But this is not about equating the workforce with widgets. MEP helps manufacturers understand both the tangible and intangible value of their talent by looking at outcomes such as improved customer service, innovation, market expansion, and patents, and then tie that back to workforce spending.

MEP has begun to implement innovation engineering training. Since January 2010, MEP has hosted 27 Innovation Engineering Leadership Institutes. During this three-day training, MEP teaches manufacturers and their key employees the importance of innovation and how to instill it into the culture of their company, so that every manufacturing employee is innovating in their job every day. The MEP program also exposes them to the tools of how to cycle new product ideas in fast, easy stages to minimize risk and maximize their return-on-investment. For calendar year 2012, MEP is hosting 20 institutes.

03 BREAKING DOWN LANGUAGE BARRIERS AT UNIVERSITY HEALTH SYSTEM

University Health System based in San Antonio, Texas is comprised of a public teaching hospital and ambulatory clinics with more than 5,000 employees.

Establishing the Skills Gap

Some readmissions can't be helped. But Raul Correa, a registered nurse with University Health System, is working to ensure his patients leave the hospital with a clear understanding of what they need to do to avoid coming back—by communicating with them in their native tongue. As part of the organization's medical interpreter program, Correa is just one of many staff working to improve timely and effective communication with patients, reduce costs, and improve the safety and quality of care offered.

According to a study released by Harvard University in 2011, providing patients with important information about their health, medications, and treatment options can reduce rehospitalizations by about 20 percent. What's more, University Health System's contracted cost for an onsite English-Spanish medical interpreter is $70 per hour, with a two-hour minimum charge. The organization's interpreter expense had been significantly increasing for a number of years. And in 2011, onsite interpreters were called to a University Health System location 1,327 times, at a cost of $185,780—a 62 percent increase over 2010. This significant increase directly led to the establishment of the medical interpreter program. Year to date through the end of August 2012, 787 fewer interpreters have been utilized, for a savings of $110,180.

The criteria for serving as a medical interpreter at University Health System include the following:

» achieving an acceptable score on the Spanish proficiency exam administered before admission to the course

» committing to attend 40 hours of training in medical interpreting

» successfully completing the end-of-course competency assessment

» agreeing to serve as an interpreter on designated units.

Addressing the Gap

Program organizers reviewed onsite interpretation expense by department to ensure staff members from high utilization areas were heavily recruited for the program. Bilingual employees in particular have shown interest in joining the program—Correa was one of the first to sign up. "Our bilingual staff have embraced becoming more effective communicators by receiving this advanced training in medical interpreting," says Jacqueline Burandt, Senior Director University Health System's Center for Learning Excellence. "They see firsthand every day the positive impact it can make on our patients' safety and quality outcomes."

In the program's first year, 48 employees signed up and passed the first step—a test to determine Spanish proficiency. All 48 staff members completed a 40-hour English-Spanish medical interpretation course offered through contracts with

International Language Center of San Antonio and Spanish English Foreign Languages for America. In 2012, 60 staff members graduated from the course, and by mid-year another 11 were actively enrolled. Once through the program, the interpreters work at University Hospital and throughout University Health System's network of ambulatory clinics in Bexar County, TX.

The Results

According to Carlos Castaneda, Director of Patient Relations, by mid-2012, 25 employees had submitted documentation showing they had completed 10 English-Spanish interpretations. "These encounters saved University Health System more than $36,000," he says. In the first quarter of 2012, onsite English-Spanish interpreters were called 55 times, at a cost of $7,700—almost a 66 percent reduction from the $23,100 average interpreter cost per quarter in 2011.

If University Health System continues to utilize the internal Medical Interpreter Program at the same rate for the remainder of 2012, the savings will amount to $61,600. "As we continue to train and utilize trained employees, we can expect the savings to go even higher and perhaps get close to zero dollars spent in the future for contract English-Spanish interpreters," Castaneda explains.

Not only does the program help control costs, it also enables the organization to raise its patient-centered care communication standards and remain in compliance with those set by the Joint Commission. "Training bilingual staff to serve as medical interpreters is the ultimate win-win," Burandt concludes. "The patients love it. It improves communication and patient safety as well."

STUDY
04 MANAGER DEVELOPMENT HELPS GROW VISTAPRINT'S BUSINESS

In recent years Vistaprint, an online supplier of customized print products and marketing tools for more than 14 million micro businesses and consumers, has experienced rapid growth and a major increase in business volume. Since its inception in 1995, the company has grown from a handful of employees to more than 3,700 globally and has experienced 25 percent year-over-year growth to over $1 billion in revenue.

Establishing the Skills Gap

Due to its growth, the company began promoting strong individual contributors to managerial positions to keep up with the constant need for more employees. The initial thought was that individuals who were high achievers in their current roles would be equipped with the right skill sets to handle management responsibility. This idea had merit, as promotions yielded strong results in some cases, but not all. Survey data of employees showed that there was a lack of confidence in their current managers, and that more education and training was needed to grow effective managers from the top down.

The company needed to focus on its managers in an effort to sustain the rapid level of growth it was experiencing while also growing and developing future leaders for the organization.

Addressing the Gap

As a result, in the fall of 2008 Vistaprint created a relevant and targeted Manager Development Program (MDP) for all managerial levels. Emphasis was placed on creating a high-impact development program, not just a one-day training event. The learning and development team partnered with key internal stakeholders to gather requirements and conduct a needs analysis, collecting data from business leader interviews and focus groups. In addition, employee feedback generated a shared sentiment of people wanting their managers to become better skilled at effectively managing their teams. These different initiatives helped to ensure that the company was not only addressing the business needs, but was also building ongoing support of the training initiative and its associated skills and behaviors.

Rooted in extensive research and analysis to satisfy global organizational needs, MDP was designed with a commitment to developing managers for the Vistaprint of tomorrow. The program's main initiative was to build foundational management competencies that strengthen the relationship between managers and their employees. Other competencies included aligning employee tasks with the overall business' goals, coaching versus mentoring, giving (and seeking) productive feedback, being a role model, and making decisions based on the company's core enduring values. The program was constructed to take place over the course of one year, concluding with a graduation ceremony that would acknowledge the participants' hard work and dedication.

The Results

The pilot class launched in April of 2009. Its curriculum included approximately 20 days of effort involving group and individual learning experiences through full-day classes, discussion groups, peer networking opportunities, and web-based resources. Each portion addressed current business issues, with at least 50 percent of the time devoted to "real-time" Vistaprint situations. Each session was unique as it provided managers with a reliable, safe environment for interaction where challenges could be discussed.

Feedback from the program's pilot class indicated participants felt galvanized to embrace the challenge of becoming a stronger manager. As they engaged in the program, they learned specific skills and behaviors that could be applied to their day-to-day work and improve their effectiveness as a manager.

Since the launch of the pilot class, 11 more classes have locally rolled out in Lexington, Massachusetts and 10 others have rolled out in global locations. The initial investment for MDP was small and has made a larger impact on the company than what was initially expected. In addition to internal benefits, the program has helped promote career development to prospective employees, and new hire numbers have increased dramatically since its implementation. After two years of implementation, a change already has been seen in the number of Vistaprint employees who are creating SMART goals, providing both the manager and the employee with the criteria needed to discuss, monitor, and evaluate performance. This activity resulted in 100 local promotions in 2010 and almost 400 local promotions in 2012.

05 WELLS FARGO: BUILDING STRONG LEADERS IN TURBULENT TIMES

Wells Fargo & Company is a diversified financial services company providing banking, insurance, investments, mortgage, and consumer and commercial finance to customers around the world, through more than 9,000 stores, more than 12,000 ATMs, and online. The Wells Fargo Audit Services (WFAS) group is comprised of approximately 500 employees who serve in the internal audit function. Audit is a provider of independent, objective assurance and consulting services delivered through a highly competent and diverse team. As a business partner, Audit helps the company accomplish its objectives by bringing a systematic disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

WFAS strives to be known as one of the world's great audit teams and recognized as strong by all stakeholders including banking and financial services regulators. Wells Fargo Audit Services is committed to exceeding regulatory standards, including assuring internal audit management possesses significant industry expertise and knowledge to match the sophistication and complexity of the bank's risk profile and operations.

Establishing the Skills Gap

The learning and development team's first step related to skills-based learning as the development and implementation of Audit Services University (ASU). ASU offers role-based curriculum paths designed to develop highly skilled auditors who can assess risks, scope audits, test controls, and challenge management within the context of the assigned line of business. The second step was to convene a group of audit subject matter experts to form the WFAS Learning Council to keep the WFAS learning strategy focused on current business priorities and meaningful to business teams. In addition to a robust catalog of ASU learning opportunities, there was also a need to provide audit management an isolated forum to simulate challenging work scenarios, against the unique backdrop of Wells Fargo technical audit processes and activities.

Addressing the Gap

Wells Fargo Audit Managers function in very technical environments, on tight deadlines with multiple work streams, and demanding leadership responsibilities. While these individuals are phenomenal team members, their career progression challenges them to take responsibility for managing organizational changes, navigating technology shifts, and working with virtual teams in a highly regulated and continually evolving industry. The Audit Manager role requires significant application of judgment, interpersonal skills, technical acumen, and leadership.

The Audit Leadership Experience is a blended learning program that immerses Audit Managers in a simulated audit, where they practice key skills including coaching, critical thinking, business partner interaction, negotiation and conflict

management, performance assessment, multitasking, and raising tough issues in virtual and face-to-face environments. This year, social media forms the backdrop of the emerging risk audit scenarios.

The program is a 16-hour commitment for 16 high-potential leaders selected through a nomination process. The following provides an overview of the program and timeline:

Week	Event	Location	Description
1	Kickoff	Virtual classroom	During the kickoff, facilitators introduce the concept of the audit simulation, demo a scenario, and preview the upcoming assignments and time commitments.
2	Communication Skills	Virtual classroom	The communication skills refresher class targets key leadership communication skills that participants will need to demonstrate during audit simulations.
3	Conflict Management	Virtual classroom	The conflict management refresher class targets key conflict management skills that participants will need to demonstrate with team members and business partners during audit simulations.
4	Summit	Onsite	Participants experience a day-in-the-life of an Audit Manager executing the Wells Fargo audit process in an emerging risk area. They participate in simulated meetings; coach junior team members; balance business partner disruptions with regulator requests; receive email correspondence that requires immediate, technically accurate responses; run out of time; and decide how to prioritize demands. Participants will feel the pressure of simultaneous priorities, and have to choose which task to address first, while applying audit skills in an emerging risk social media scenario. The program is facilitated by a seasoned audit leader and a professional trainer who lead discussions and actively participate in role-play simulations. Participants will be coached and assessed by newly promoted Senior Audit Managers onsite as they participate in the learning activities, including simulation role plays. While the Audit Managers gain valuable leadership skills, the Senior Audit Managers have an opportunity to improve coaching skills in a learning environment.
5 & 6	Post-Summit Coaching	Manager's office	Post-summit coaching is an opportunity to involve managers in performance management discussions. During these scheduled meetings: » Participant and manager review the Audit Leadership Experience assessment completed by onsite Senior Audit Manager. » Participant and manager discuss the 30-60-90-Day Action Plan created during the summit.
7-16	Peer Check Ins	Virtual classroom	Peer Check Ins are opportunities to facilitate knowledge transfer across siloed lines of business. During Peer Check In, participants: » identify action items in 30-60-90-Day Action Plans » discuss challenges and successes with executing plans » share lessons learned.

The Results

The Audit Leadership Experience success will be evaluated using the Kirkpatrick Model.

Informally and through performance management evaluations, WFAS leadership will observe performance of participants in leadership roles, as part of a continued effort to be viewed as strong by all stakeholders with leadership bench strength that possesses significant industry expertise and knowledge to match the sophistication and complexity of the bank's risk profile and operations.

References

AAR Corp. *The Mid-Skills Gap in Middle America*, http://www.aarcorp.com/mid-skills/files/aar_midskills_report_102011.pdf.

Carnevale, A.P., N. Smith, and J. Strohl. (June, 2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Washington, D.C.: Georgetown University Center on Education and the Workforce, http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/State-LevelAnalysis-web.pdf.

Claghorn, P. (July, 2011). "Certainly Not Half Baked: A True Community College and Business Partnership." *T+D* magazine, vol. 65, number 7.

CompTia. (February, 2012). *State of the IT Skills Gap*, www.wired.com/wiredenterprise/wp-content/uploads/2012/03/Report_-_CompTIA_IT_Skills_Gap_study_-_Full_Report.sflb_.pdf.

Dobbs, R., A. Madgavkar, D. Barton, E. Labaye, J. Manyika, C. Roxburgh, S. Lund, and S. Madhav. (June, 2012). *The world at work: Jobs, pay and skills for 3.5 billion people*. McKinsey Global Institute, www.mckinsey.com/insights/mgi/research/labor_markets/the_world_at_work.

McGraw-Hill Construction. (2012). *Construction Industry Workforce Shortages: Role of Certification, Training and Green Jobs in Filling the Gap*. Bedford, MA: The McGraw-Hill Companies, Inc.

Morrison, T., B. Maciejewski, C. Giffi, E. Stover DeRocco, J. McNelly, and G. Carrick. (2011). *Boiling point? The skills gap in U.S. manufacturing*. Deloitte & The Manufacturing Institute, http://www.themanufacturinginstitute.org/~/media/A07730B2A798437D98501E798C2E13AA.ashx.

Pace, A. (October, 2012). "Training and Development's Role in the Nuclear Industry Skills Gap." *T+D* magazine, vol. 66, number 10.

Steigleder, S., and L. Soares. (June, 2012). *Let's Get Serious About Our Nation's Human Capital*. American Progress, http://www.americanprogress.org/wp-content/uploads/issues/2012/06/pdf/workforce_training.pdf.

U.S. Bureau of Labor Statistics, www.bls.gov.

Warner, L., S.L. Gates, W. Christeson, and M. Kiernan. (2011). *The Skills Gap: Reversing Washington's Lack of Skilled Workers Through Early Learning*. America's Edge, http://cdn.americasedge.org/clips/WA-Skills-Report.pdf.

Whoriskey, P. (February 19, 2012). "U.S. Manufacturing Sees Shortages of Skilled Factory Workers." *Washington Post.*